

# The American Labor Legislation Review

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Vol. XIV

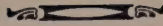
MARCH, 1924

No. 1

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The AMERICAN LABOR LEGISLATION REVIEW is published quarterly by the American Association for Labor Legislation, 131 East 23rd St., New York, N. Y. The price is \$1 a single copy, or \$3 a year in advance. Annual subscription includes individual membership in the Association. Entered as second-class matter February 20, 1911, at the post office at New York, N. Y., under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on July 13, 1918.



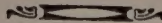
## Safety in Mines

(Editorial in Troy, N. Y., *Times*)

THE report of the American Association for Labor Legislation as to accidents in mines seems to substantiate the assertion frequently made that many of the casualties that take annually such a heavy toll of human lives are preventable.

This report, based on a careful investigation extending over several years, shows the laxity of the laws and is a reflection on the methods employed by mine operators. The death rate among the soft-coal miners in the United States, due to accidents, is three times greater in proportion to the number of men employed than in Great Britain. The investigators assert that with the universal adoption of safety measures and appliances now in use in some mines two-thirds reduction in accidents can be brought about. \* \* \*

This report, inferentially, places the responsibility for many mine disasters upon either the states where the mines are located or the federal government. It appears to be merely a matter of adequate laws. If England and France can reduce to a minimum the number of mining disasters, there is no reason why the United States cannot do the same thing. \* \* \* It is to be hoped that as a result of this investigation and report necessary legislation will be enacted at once. \* \* \* Human life is too precious to sacrifice needlessly.





## Immediate Legislative Issues

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A PROGRAM for the prevention of needless coal mine accidents, as discussed by leading authorities—including a mine safety engineer, the dean of a school of mines, representatives of the miners' union, public officials and economists—at the seventeenth annual meeting of the Association for Labor Legislation, is the major topic to which this number of the REVIEW is devoted.

These contributions are most timely. They will remain timely until safety in mines catches up with engineering knowledge of what can and ought to be done.

Still another frightful disaster comes, as this issue goes to press, to shock the public and reinforce our demands that measures be taken to put a stop to the wholesale killing of coal miners. The explosion at Castle Gate, Utah, March 8, killing 172 men—most of whom leave destitute widows and children—is, however, only the most recent of an appalling series of coal mine tragedies that have been commented on by our Association during the past two years. The real tragedy lies in the fact that practically all were preventable.

Legislative sessions will be held in 1924 in only eleven states and by Congress. A few have already adjourned, several are continuing and two, in Georgia and Louisiana, have not yet begun. Demands are being made upon our Association by legislators and others for services in explaining several measures of importance.

Hearings before the House committee have been completed on the Fitzgerald-Jones bill (H. R. 487, S. B. 488) drafted by the Association to provide an adequate accident compensation bill for private employees in the District of Columbia. And, as at the preceding session, strenuous attempts are being made by interested commercial insurance agents to delay action and defeat the bill.

In the states, the Association has been supporting desirable amendments to compensation laws, especially those in New York, New Jersey and Virginia to reduce unreasonably long non-compensated "waiting periods" to the now widely accepted seven-day standard.

Closely related to our accident compensation program is our work in behalf of a federal bill to continue the

expiring appropriations for federal-state cooperation in vocational rehabilitation of industrial cripples—and of measures providing for acceptance of such federal aid in states which have not yet adopted the plan.

Another important measure is the amendment to the accident compensation law for civilian employees of the United States which will effectively check the tendency of the Comptroller-General to usurp authority of the administrative commission.

Referring to the third divided U. S. Supreme Court opinion, February 25, finally blocking the Association's efforts to provide accident compensation for longshoremen and other local harbor workers under state laws, Justice Brandeis characterized this legislation as "statesmanlike" and the prevailing court opinion as "unfounded assumption which crumbles at the touch of reason." However, we must now make further legislative efforts along new lines.

One-day-of-rest-in-seven legislation is an issue in a number of states, particularly in Rhode Island where the Association's standard bill is again pending.

Long-range planning of public works and their reservation for periods of industrial depression—a feature of the Association's program for the prevention of unemployment—is now a legislative issue of considerable importance. A bill is pending in Massachusetts along the lines of the legislation already in effect in California and Wisconsin. In the national field, a proposal to secure the adoption of the principle of advance planning of public works by the federal government, in connection with the plan for reorganization of administrative departments, is being furthered by our Association in cooperation with a number of engineering organizations.

Educational and legislative campaigns are continuing unabated to remove the spectres of unemployment, old age, injury and death which hover over the wage-earners and their families, and to extend needed protection to the thousands who still work the twelve-hour day and the seven-day week, as well as the additional thousands who are killed, or widowed and orphaned, in preventable factory and mine accidents.

JOHN B. ANDREWS, *Secretary*  
American Association for Labor Legislation.



## Legislative Notes

DR. ALICE HAMILTON of the Harvard Medical School and for many years a member of the administrative council of the American Association for Labor Legislation, has been appointed a member of the **permanent health organization** of the League of Nations.



At a conference assembled on January 9 by the Kansas Court of Industrial Relations the **standard schedule for industrial accident reports**, first formulated by the American Association for Labor Legislation in 1911, was agreed upon for future notification of industrial injuries in Kansas. State after state has adopted this form until considerably more than two-thirds of the manufacturing population of the whole country is now working under it.



AN editorial in the New York *Sun*, commenting upon the coal mine explosion at Castle Gate, Utah, March 8, which killed 172 men, attempts to show that **fatalities in the coal mining industry** are decreasing at an encouraging rate. "Less than two-thirds as many miners," says the *Sun*, "lose their lives in the collieries each year nowadays as did in the year 1907." Why did the *Sun* pick out 1907? It so happens that in no other year since coal mine fatality statistics were first compiled in 1839 have there been as many deaths as in 1907! In that year 421 more men were killed than in 1910, the year having the second highest death rate.



IN New Jersey a comprehensive **old age pension** bill was passed by the house. A bill providing for old age pensions for persons over sixty-five eligible for care in county or state charitable institutions was introduced in the Kentucky legislature as prepared by the old age pension committee of the United Mine Workers of America and was favorably reported from house committee.



THE cause of scientific accident compensation legislation in America has suffered another serious loss in the death by pneumonia, in St. Paul on March 9, of **Carl Hookstadt**, compensation expert of the United States Bureau of Labor Statistics. His extensive investigations in the United States and Canada and his published reports during recent years have furnished the most authoritative basis for the improvement of the laws and their effective administration. He was prominent in the Association

of Industrial Accident Boards and Commissions and a member of the social insurance committee of the American Association for Labor Legislation. One of his last public services was his testimony, upon invitation of a congressional committee, warmly supporting the Fitzgerald-Jones compensation bill for the District of Columbia.



DR. JOHN A. LAPP of the National Catholic Welfare Council, in an address recently in Chicago, declared that **workmen's compensation laws** "are the greatest Godsend the country has had for the last one hundred years, but they are still possible not only of improvement but of a wider application."



A LEGISLATIVE commission in Quebec is making an inquiry with a view to the adoption of an **exclusive state fund** for workmen's accident insurance, like that already in effect in seven of the other ten provinces of Canada.



A WAY must be found to **make the coal mines of America safer** for the miners, declared Secretary of Labor Davis in a recent address before the United Mine Workers of America. "Two explosions in a week and nearly one hundred lives lost," he said, "is a reflection that takes away our material credit because they emphasize the lack of proper regulations and cooperation that still makes the operation of our mines three times more dangerous to life and limb than the European."



A REPORT on **anthrax** in the tanning industry, containing results of an investigation in Germany, has been published by the International Labor Office at Geneva. It shows that the chief sources of infection are imported hides, and gives detailed instructions for disinfection.



A BULLETIN has recently been issued by the extension division of the University of Wisconsin on **Unemployment Insurance**, prepared by Olga S. Halsey, as an aid to debating societies. American proposals for unemployment compensation legislation, the bulletin points out, follow the principle already familiar to American employers in workmen's accident compensation legislation and provide an incentive to industry for prevention.



RECOGNIZING that intelligent morbidity data are an aid in **preventing illness among miners**, the United States Public Health Service, co-operating with the federal Bureau of Mines, is prepared to assist companies that wish to inaugurate a system of morbidity records by sending a representative to confer with the company and help devise a plan of records.



"WELFARE" bills to create a state **minimum wage commission** and to provide an **eight-hour day** and **forty-eight-hour week** for **women in industry**, were passed in the New York Senate, March 10.



A DECISION by the United States Supreme Court, March 10, upheld the constitutionality of the New York labor law of 1917 prohibiting the **employment of women** in restaurants at night. The court held that, as far as "liberty of contract" is concerned, the issue in this case is different from that in the case of the minimum wage law of the District of Columbia.



COMMENTING on the Supreme Court's diverse decision in the two cases, the New York *Sun* remarks that they seem to "establish the principle that interference with services which can be asked is not interference with **freedom of contract**, while interference with wages that can be paid is."



DESPITE the increasing toll of lives and destruction of property in **coal mine accidents**, the Illinois Manufacturers' Association is attempting to wipe out the miners' qualification law of that state—an important safety measure.



A REPORT of experience under the **health insurance act** has been issued by the government of Great Britain. A writer of the Actuarial Society of America says that "the tabulation of actual profit and loss from excess interest, economical administration and so on shows a net profit for the period considered amounting to seventeen million pounds. Apparently the sickness and disability benefits have been much under the amount planned for, the sickness benefit showing 80 per cent of the expected and disablement benefit 51 per cent of the expected."



THE immediate legislative program of the federation of labor of Alberta, **Canada**, includes greater protection for miners, improvement of the accident compensation act, adoption of the eight-hour day and forty-eight hour week as put forward by the international labor conference and **advance planning of public works** by the government to stabilize employment, "pending a permanent scheme of unemployment insurance."



A RESOLUTION adopted at the twelfth National Safety Congress at Buffalo October 1 urged the mobilization of community forces through state and city safety councils to curb the mounting toll of **accidents**. With respect to industry the resolution states that "experience has demonstrated that at least 75 per cent of the industrial accidents are preventable."

OLD "blue laws" have been invoked in Youngstown, Ohio, to compel **Sunday closing** of steel mills and newspaper plants as well as theaters, cigar and confectionery stores and dairy depots. A mandamus writ has been granted by the court ordering the city to enforce the statutes.



THE department of labor of **Queensland** reports that the **unemployment insurance act** of 1922 which went into effect March 1, 1923, has from the outset "been working very smoothly and satisfactorily.



**MATERNITY** insurance is provided in a royal decree which recently went into effect in **Spain**. The allowance will be paid from a fund to which the state and the workers will contribute.



**WARNING** that the several hundred thousand open lights daily carried in the coal mines of the United States are a constant menace to life and property through danger of fire or explosion is given by the federal Bureau of Mines. A recent study of the disaster files of the bureau, covering a period of seventeen years, reveals the fact that the use of open lights was the attributed cause of seven fires and 102 **explosions in coal mines**, and of four fires in metal mines, in the United States. These disasters were responsible for the death of 2,341 men, injury to 376 miners, and great damage to property, in some instances the mine being entirely wrecked.



**DR. FRED. H. ALBEE**, chairman of the New Jersey Rehabilitation Commission, in an address at the eleventh annual meeting of the International Association of Public Employment Services in Toronto, graphically described the great contribution which medical and surgical science can make toward the **rehabilitation** of persons who have been incapacitated as a result of war or industrial injuries.



"No contract will be permitted between the employer and insurance company that attempts to avoid the responsibility of the employer from the prompt payment of temporary total disability compensation," says a recent ruling of the state insurance department of Kansas. The workmen's compensation act requires that the employer make payments for temporary total disability at the same time, place and in the same manner as wages were paid to workmen at the time of the accident. Employers were, however, given the impression that their insurance policies would be invalidated if they made such payments without awaiting the pleasure of the insurance carriers in promptly investigating and providing the funds. The ruling calls upon all **insurance companies writing workmen's compensation insurance** in the state to act promptly within the terms of the act and to notify their policy holders at once that compliance with the law will not invalidate their policies.



A NEW monthly publication, the *Labor Bulletin*, is being issued by the Illinois department of labor. It covers not only **statistics of employment** but also information as to the activities of all divisions of the department, including the industrial commission which administers the workmen's compensation law. George B. Arnold, director of labor, states that it is planned to place Illinois on a plane with Massachusetts, New York, and Wisconsin in the gathering and publishing of official information concerning the state of labor and industry.



SINCE many of its members are interested in other organizations working for a national department of health, the **Committee of One Hundred on National Health**, of which Prof. Irving Fisher is chairman, has suspended.



A THREATENED lawsuit between the states of North Dakota and South Dakota was averted September 8 when the South Dakota Coal Commission operating a state mine at Haynes, North Dakota, agreed to bring Haynes mine employees under the North Dakota **workmen's compensation act**. The employees have been compensated for injuries under a South Dakota act but the North Dakota industrial commission, asserting that all industries within its borders must come within the provision of its laws, had announced intention to enter suit in the United States Supreme Court to collect premiums.



UNDER a contributory group insurance plan of the Delaware and Hudson Company, Utica, New York, employees are entitled to a **dismissal wage**, when discharged, of from \$15 to \$20 a week for a period of six weeks.



DR. N. I. STONE, general manager of the Hickey-Freeman Company, Rochester clothing manufacturers, in an address before the recent convention of the American Management Association, declared that the problem of continuity of production and employment is the greatest problem challenging the ingenuity of the leaders of American industry. Pointing out that many progressive manufacturers have learned so to control their volume of business as to keep their plants busy the year round, he said that **continuous employment** is a possibility for a much larger number of concerns than is ordinarily imagined.



UNDER the Ohio constitution the **votes of six of the seven judges of the state supreme court are required to declare a law unconstitutional** if the question is first raised in that court. This provision recently saved that section of the workmen's compensation act which provides that a 50 per cent penalty be added to the award against an employer subject to the act, but who has not complied with the law, in case he does not settle an award made by the industrial commission within ten days from the time it was made. Two judges upheld the constitutionality of this provision when it was voted upon by the court November 12.

MASSACHUSETTS has long prided herself on leading the country in **social concern for wage-earners**, yet its Governor, Channing H. Cox, in delivering his 28-page message to the legislature this January made no single reference to labor problems or labor legislation.



THE thirteenth annual **Safety Congress** will be held in Louisville, September 29 to October 3.



No settlement of the coal problem will be final that ignores the extra-hazardous nature of the **miner's employment**. As Robert W. Bruere points out, discussing the anthracite miners in the *Survey*: "Their occupation is peculiarly hazardous and of some 150,000 men, by no means all of whom work underground, more than 500 are killed each year and more than 20,000 are injured. The deftest of the contract miners, the men who are paid by the yard or the ton for the coal or rock they blast out, get high wages as wages go. But these high wage men go down into the mines with dynamite in their shirts and hand in hand with death. Their average wage is probably less than that of the organized men in the skilled building trade; the earnings of the best paid among them will probably not equal that of the most expert garment worker."



DEATHS from **industrial accidents** reported to the Oregon Industrial Accident Commission during the past year number 134. These workmen who lost their lives left 57 widows, 91 children and 15 other relatives partially or wholly dependent.



A **GENERAL reduction in working hours** to a total varying from forty-four to forty-eight hours a week is noted in the annual report of the chief inspector of factories and work shops in **Great Britain** for 1922. Overtime is very rare. "Trade depression," says the report, "may account for this reduction to a certain extent, but not all together. Few workers would be willing to work longer hours, and some occupiers say that output in the reduced period is almost, if not quite, up to that of the longer period, while others hold that it would not be worth their while to pay the overtime rates fixed for their industries."



A **RECENT** decision by the United States Supreme Court in a Utah case holds that under **workmen's compensation laws** employers are liable for injury or death of their employees while en route to and from work.



W. H. NEWMAN of Indianapolis, addressing a convention of the National Association of Brotherhood of Threshermen at Chicago recently, declared that **compulsory workmen's compensation laws** are necessary for the successful operation of commercial threshing. In Illinois alone, he said, 2,200 threshermen are injured every year.



A HIGH-SPIRITED editor, commenting on the statement in a so-called welfare report that a family of five can live on \$9.60 a week, asks: "A family of five what?"



A SUBSTITUTE for the dozen or more **child labor** constitutional amendments proposed in the United States Senate has been agreed to by a judiciary subcommittee. It reads: "The Congress shall have power to prohibit the labor of persons under the age of eighteen years and to prescribe the conditions of such labor. The power of the several states is unimpaired by this article except that the operation of state laws shall be suspended to the extent necessary to give effect to legislation enacted by the Congress."



"THE shirt on his back—it may be cotton picked by a baby, perhaps seven years old; the cloth woven in the North, processed by a fourteen-year-old; tailored in a tenement by soft little fingers, wrapped by a child, delivered by another, and then worn by a man. The food on his table was almost surely cultivated, picked and packed by tiny, aching hands; strawberries, lettuce, vegetables. The coal in his furnace was sorted by a kid, black with dust, probably illiterate." The above quotations are from a twenty-page booklet entitled, "**Child Labor in the United States**," which has been mailed by the Commission on the Church and Social Service to all pastors throughout the country.



A BILL to limit women's work to **forty-eight hours** weekly has been introduced, with strong backing, in the South Carolina legislature.



L. VARLEZ has written a thoughtful and timely article for the *International Economic Review* (reprinted in pamphlet form) on the **International Problems of Emigration and Immigration**.



EFFECTIVE January 2, 1924, a **minimum wage** of \$13.20 a week for women employed in the manufacture of druggists' preparations, proprietary medicines, and chemical compounds has been approved by the Massachusetts minimum wage commission.



A LABOR department has recently been set up by the Chamber of Deputies of **Mexico** to assist the parliamentary committees of labor and social welfare in drafting labor legislation.



A **MINIMUM WAGE** act has recently been adopted by the province of Tucuman in **Argentine Republic**, covering all workers over 18 years employed in factories or workshops.

A HISTORY of the International Seamen's Union of America has recently been published by the federal Bureau of Labor Statistics. It includes an account of the long struggle for the enactment of the **La Follette Seamen's Act** of 1915.



THE American Federation of Labor 1923 convention in reaffirming its support of the Rochdale cooperative system for the distribution of commodities and services without commercial profit, placed special emphasis on the **insurance** business as one of the most practical and urgent fields for the application of the cooperative principle.



ALBERT THOMAS, director of the International Labor Office, discussed "**The Prevention of Unemployment**" at the International Association on Unemployment conference at Luxemburg last September. Separate pamphlet prints of his address are, in this country, being distributed through the New York headquarters of the Association for Labor Legislation. The American stress on prevention and the lead now taken by M. Thomas are reassuring with reference to the discussion to be had at Prague in early October.



LEGISLATION proposed by insurance corporations with a view to writing **unemployment insurance** was opposed by representatives of labor at hearings before the New York legislature, March 11. A letter was submitted from Samuel Gompers in opposition to the proposal.



A BILL to repeal the **forty-eight hour law** for women and children in industry has been defeated in the Massachusetts legislature.



IN New Jersey a bill to permit the suspension of the law **prohibiting night work for women** has been killed.



IN Maryland a bill to provide an **exclusive state fund** for workmen's accident insurance has been introduced in the legislature.



IN its final official report, March 17, a special committee of the New York legislature, of which Judge Cotillo is chairman, urges that the workmen's compensation law be amended to prohibit insurance carriers from making "lump sum" payments to alien non-residents. The committee holds that non-resident aliens should be eligible to the same compensation as resident relatives. The committee also urges that private employment agencies be licensed and put under state supervision. **Discriminations against non-resident dependents and abuses practiced by private employment agencies** were discussed in the December, 1923, number of this REVIEW.



# Injured Longshoremen Finally Denied State Compensation Benefits

Divided Opinion Leaves Local Harbor Workers Once More in Distressing Plight—Relief Again Up to Congress

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BY JOSEPH P. CHAMBERLAIN

*Director, Legislative Drafting Research Fund, Columbia University*

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**I**N the case of *State of Washington v. Dawson*, decided February 25, 1924, the Supreme Court has held unconstitutional the act of Congress of June 10, 1922, which permitted state compensation laws to apply to longshoremen and local ship repairmen while working on board ships in the harbors.

Justice Brandeis in a strong dissenting opinion says of the chain of reasoning which sustains the opinion: "If any link fails the argument falls. **Several of the links are in my opinion unfounded assumptions which crumble at the touch of reason.**"

The result is to throw the shipping business in every port into disorder, to interrupt the operation of a law which representatives of both unions and employers had urged the court to maintain, and to put into a serious position those injured men who were depending on their regular payments under awards made to them. Families of men who had been killed are in an equally bad plight.

When workmen's compensation acts were first passed in this country, they were held by the state courts to apply to men injured on board ships. These courts had been applying their own law to cases where workers sued for damages for injuries on board ship, and they saw no reason why the new remedy of compensation should not cover maritime workers as had the old state tort law. The machinery of compensation was working satisfactorily and the port workers and their employers were getting the same treatment as other workmen and employers in the state, until the Supreme Court in May, 1917, in the case of *Southern Pacific Co. v. Jensen*, 244 U. S. 205, reversed the state courts. Four of the judges agreed with the state judges but five thought that if a ship should be subject to a different state compensation law in each port she entered, "freedom of navigation between the states and with foreign countries would be seriously hampered and impeded"!

Congress agreed with the four judges in the minority. On the showing made by the Association for Labor Legislation, certain of the unions concerned and other interested persons, both houses, with little dissent, passed an act to permit the state compensation laws to apply to **all** maritime workers, including seamen. The act was passed in October, 1917, but in May, 1920, the court held the act unconstitutional and reiterated its opinion that commerce by sea must be protected from varying state compensation laws. Again the same four judges joined in a strong dissent.

The Association had been active in the passage of the act of 1917. The economic principle of the act—that work in the ports was local work which should be under local compensation law—grew clearer under criticism. The unions were strongly convinced of the desirability of state law and many employers desired to avoid the confusion of a double system of compensation, state and federal. Now in both previous decisions and in later cases modifying their doctrines the court had made the point that **so far as matters of local concern were involved**, state law would be applied to maritime accidents instead of the maritime law. In the two decided cases the court had been dealing with rules which affected both seamen and port workers. The distinction between these groups had in law and fact not been made, but it seemed vital. Sailors are employed directly by the ships, they have peculiar remedies against the ship under the sea law, they sail with the ship from port to port and are much of the time not in any state jurisdiction but on the high seas. So, both for them and for the ship which employs them, a uniform federal compensation law might well be desirable.

The court in the Jensen case was evidently under the impression, based on the facts in that one case, that longshoremen and repairmen were also customarily hired by the ship or her owners. However, in the real life of seaborne trade, ships very rarely and ship owners only seldom, hire longshoremen or do their own repairing. Longshore work is done in the main by local stevedoring contractors who engage the men directly; ships are repaired under contract with local concerns who send on board mechanics employed by them in their shore work. This local work, done by local workmen, hired by local contractors, not by the ships, seemed clearly to come within the exception to the rule requiring uniformity of the maritime law. As Justice Brandeis expressed it:



"How can a law of New York, making a New York employer liable to a New York employee for every occupational injury occurring within the state, mar the proper harmony and uniformity of the assumed general maritime law in its interstate and international relations, when neither a ship, nor a ship owner, is the employer affected, even though the accident occurs on board a vessel on navigable waters? The relation of the independent contractor to his employee is a matter wholly of state concern."

There was another reason why longshore work should be recognized as under the exception. A longshoreman works part of the time in the dock, part of the time on the ship, and the court has decided<sup>1</sup> that the state laws covered accidents happening on the dock. So ships **were** subject to state compensation laws in each port, the court was powerless to secure what it has sought in the Jensen case, and it seemed probable that the local contractors and local workmen would get due consideration.

Therefore the Association, acting with the unions concerned and supported by an important group of employers, introduced into Congress the act which Justice Brandeis says, sought, "in a statesmanlike manner, to limit the practical scope of our decisions in" the Jensen and Knickerbocker Ice cases, by permitting state laws to apply to port workers.

Not on the facts of a single case in a single port which might not be typical, but after hearing representatives of all interests concerned and full consideration, as the reports show, did the committees recommend that Congress permit the application of local laws to local employers and employees, as within the exception to the uniformity rule, which the court had itself recognized. The bill became law on June 10, 1922. Under it, coinciding with experience since the beginning of compensation and the reasoned judgment of the Congress, all testimony refuted the court's economic theory of the calamity which would fall on commerce if local compensation laws applied to local maritime work. Yet the court was not convinced. To allow the state compensation laws to apply to longshoremen and repairmen, Justice McReynolds says would be an "intolerable restriction" on maritime commerce, and he is alarmed at "the confusion and difficulty" which would consequently result to vessels if they are subject to these laws for work done on the ship.

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<sup>1</sup>*Industrial Commission v. Nordenholt Co.*, 259 U. S. 263.

The machinery of compensation must be simple. The situation calls for prompt action. The court says uniformity of law is necessary. **Since seamen now have the benefits of the federal employers liability act, Congress should at once grant the same right to harbor workers.** But it is compensation not damages which is needed, and **a federal compensation act should be passed by this Congress.** Perhaps local commissioners with a board of appeal in each federal judicial circuit, and appeals on point of law to the circuit court of appeals, will be the best system. The state commissions may be used to pass on cases. It will not be clear in many cases which law should apply and this should be kept in mind in devising the federal enforcement machinery.

The scale of benefits should be at least as high as that of New York, the largest port, with the improvements adopted in California. There must not be a discrepancy in favor of the longshoremen injured on the dock as against his fellow injured on the ship.

Nor should Justice Brandeis' suggestion be overlooked, that "no federal workmen's compensation law could satisfy the varying and peculiar economic and social needs incident to the diversity of conditions in the several states" and that therefore **an amendment to the constitution be adopted to allow the state laws to take effect.**





# Workmen's Compensation in the District of Columbia

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BY REV. JOHN A. RYAN

*Director, Department of Social Action, National Catholic Welfare Council*

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THE District of Columbia is one of our few political jurisdictions that are still without adequate legal protection for private employees. Just why our national lawmaking body has set such a bad example to the states in the field of accident compensation, is a long story which need not be told here.

In the last Congress, the committee of the House of Representatives favorably reported one bill and by a narrow margin of votes passed another, which however failed of any action in the Senate. At the present session, several hearings have already been held on workmen's compensation by the House committee of the District of Columbia, but no bill has yet been reported out by the committee.

During the last year, the department of sociology of the Catholic University of America, has made a study of a number of typical industrial accidents in the District of Columbia. Some of the most important conclusions of the study are the following:

The injured workingman has no other legal recourse than a lawsuit, subject to the well-known common law defenses, namely, assumption of risks, contributory negligence, and fellow-servant's fault. Almost always the employer utilizes the first of these defenses, sometimes falling back upon the other two. So unsuccessful have been the majority of injured employees in court actions that frequently the victim takes what the employer offers him, rather than run the risk of getting less through a costly lawsuit.

It seems that in a large proportion of accident cases, the injured person does not receive even money to cover his medical and hospital expenses. In ninety-one cases studied by the investigators, these expenses were defrayed by the employer or by the insurance company in only thirty-nine of the instances. Thirty-three of the injured persons had to take care of the medical costs themselves, while the other nineteen were assisted by charity, by labor unions, or from unknown sources. Twenty-three of the cases in which neither the employer nor the insurance company contributed anything for medical service, involved permanent disability.

As regards cash compensation, the record is even worse. Fifty-two of eighty-eight injured persons received nothing whatever; sixteen obtained less than \$100; the majority of the remaining

twenty got less than \$500. Among the cases for which no cash compensation was paid, seven were fatal and twenty involved permanent disability.

The attitude of the employers on the whole seems to be far from creditable, while the attitude of the insurance companies seems to be worse still. According to the report of the investigators:

"There is some evidence to show that insurance companies make it their practice to offer \$25 to get rid of a claim. If suit is seriously threatened, they raise the offer to about \$300, regardless of the nature of the injury. The \$300, it is stated, is based on what it would cost to defend a suit."

In connection with the section just quoted, the *Washington Evening Star* committed a serious mistake—if it was a **mistake**. In that newspaper's version, the first sentence of the paragraph ran thus: "There is **no positive** evidence that insurance companies make it their practice \* \* \*."

This perversion, whether intentional or unintentional, of the text of the report, is suggestive of the kind of controversy which now rages about the enactment of a compensation law for the District of Columbia.

With few exceptions, the members of Congress profess to be in favor of such a statute. The only serious question among them concerns the kind of insurance which shall be permitted to the employers. The Underhill bill would allow employers to insure their risks with private casualty companies, while the Fitzgerald bill would compel them to take out insurance from a public fund, excluding entirely the private companies. The friends of the former bill contend that the rates of compensation which it provides and the other features which directly affect the employees, are quite as good as the provisions of the Fitzgerald bill. By the friends of the latter it is maintained that the Underhill bill is inferior, inasmuch as it does not make adequate provision for accident prevention, nor for rehabilitation of industrial cripples, and because it allows direct settlements between employer and employee. Nevertheless, these differences have received little attention in the controversy compared with that devoted to the issue of insurance in a public fund *vs.* insurance in private casualty companies.

So bitter has the quarrel become over this issue that the authors of the respective bills do not always take the trouble to treat each other with excessive politeness at the hearings. During that which took place January 26, Mr. Fitzgerald took exception to the form

of a question addressed by Mr. Underhill to Dr. John B. Andrews, who was testifying before the subcommittee:

Mr. FITZGERALD: "You understand that this is a statement of Mr. Underhill. Anybody would challenge the truth of the statement you made, Mr. Underhill, because that is quite contrary to the history."

Mr. UNDERHILL: "My own state repudiated it."

Mr. FITZGERALD: "I think you are less informed about your own state and the origin of state funds for protection of workingmen than anyone I have seen that studied the question \* \* \*."

A sophisticated person who listened to Mr. Underhill's questions and objections concerning the Fitzgerald bill would have no hesitation in classifying him as "hard-boiled." One not entirely sophisticated would wonder why Mr. Underhill is so concerned to have his own bill recommended by the committee rather than the Fitzgerald bill, inasmuch as he contends that the only difference between the two is that the Fitzgerald bill excludes from the operation of the act the private casualty companies, while his gives them all the business of insuring against accidents. After all, the amount of such business that is likely to exist in private employments in the District of Columbia is comparatively insignificant. It would not greatly enrich any or all of the private companies.

Apparently the answer is to be found in the fear that if the public fund should be enacted in the District of Columbia law, this action would have considerable exemplary effect throughout the states. If Congress committed itself to the public fund method, the agitation for the adoption of that method in many of the states would be considerably strengthened. Should several of the states that now permit the private companies to carry a part or all of this insurance, substitute the compulsory state fund, the private companies would obviously be deprived of a very large volume of business.

There is only one theory upon which the Underhill bill can logically be preferred to the Fitzgerald bill. It is that the interests of a private business group are to be preferred to the public interests. **If insurance in a public fund costs only one-fourth as much as insurance in the private companies, the former represents efficiency, and the latter represents inefficiency.** Is industrial accident insurance by the private companies of such great importance to political theory, or to doctrinaire assumptions about the functions of the State, that it must be upheld at the expense of the consumers, who must ultimately pay the excess cost?



## Four More Mine Disasters!

**T**HREE coal mine explosions and the flooding of an iron mine—killing a total of 110 miners—open the record of mine tragedies for 1924. The most recent catastrophe was that at Castle Gate, Utah, March 8, where a terrific coal dust explosion wrecked the mine and **killed 172 miners**, practically all of whom were heads of families!

In a single week in January there were two gas-and-coal dust explosions—one at Shanktown, Pennsylvania, in which **36 miners lost their lives** and another at Johnston City, Illinois, in which **32 miners met violent death**. A fourth disaster occurred at Crosby, Minnesota, February 3, when the bottom fell out of a small lake, letting the water into an iron mine and **drowning 42 miners**.

Once more, in quick succession, came the all too familiar stories of grim human tragedies in mining communities to darken the first pages of newspapers.

**Castle Gate:** "A bitter cold wind swept down from the north. \* \* \* Huge fires were built and around these men, women and children huddled, anxious for news of their missing. \* \* \* Bodies brought out were so charred and mutilated by the blast that identification was difficult."

**Crosby:** "Night found, standing at the shaft opening, scores of wives, mothers and children, some in tears, others dry-eyed and staring, as helpless as were the men about them to rescue those overwhelmed in the murky waters."

**Shanktown:** "The explosion was audible over a wide area. The rumbling, which died away as suddenly as it came, left a stillness which was broken by screams from the women who instinctively knew the always feared tragedy had come."

**Johnston City:** "Throngs of frenzied men, women and children are gathered about the entrance to the mine. \* \* \* A number of the bodies brought to the surface were burned beyond recognition."

Already in 1924 three "major" explosions in coal mines have taken 240 lives! In 1923 **265 miners were killed** in five "major" coal mine disasters. These tragedies followed a series of eleven "major" explosions in 1922 which caused the death of 264 men. **In ten years we have killed nearly 25,000 coal miners!**

How much longer shall these killings continue? ("The great explosions should not be considered to be normal occupational accidents," says the director of the federal Bureau of Mines.) When will the public insist upon removing for all time the dreaded spectre of violent death that stalks through the mines? These questions—which must here again be raised—were asked in every issue of this REVIEW for 1923. And in each

new issue, without fail, it has been necessary to record the news of one or more new disasters.

Mine bureaus have existed for many years. Accident compensation laws have provided at least partial relief for those left dependent. **But safety standards are still inadequate.** The United States Bureau of Mines has shown that many of the worst hazards of mining can be eliminated. Director Bain of the Bureau declares that "explosions can and must be prevented." Results, however, depend upon local and state action.

In order to make safety work in the mines more effective the American Association for Labor Legislation is urging the adoption of a program for strengthening protective legislation, which includes—

1. The adoption of uniform legal minimum standards of safety;

2. The use underground of no explosive that is not after scientific investigation numbered among the "permissibles;" the strict limitation of "shooting off the solid;" and the use of shale or approved rock dust to check the spread of coal dust explosions;

3. Reward careful employers and penalize the less scrupulous, by the universal adoption of schedule rating for insurance under accident compensation laws, with a further graduated penalty for cases of wilful failure to put into effect legal safety regulations;

4. An adequate mine inspection staff selected upon a merit basis of training and experience, fairly paid, for reasonably long tenure of office and protected from partisan interference whether political or industrial;

5. Greater public authority, federal and state, to procure and disseminate information, and to establish and maintain on a uniform basis reasonable minimum standards of safety.

The Association's program of prevention of needless coal mine disasters—discussed more fully on pages 22-35 of this REVIEW—has aroused widespread interest. It has been put forward during the past year with the active cooperation of the press, and after consultation with mine operators and engineers, representatives of the miners' organizations, state and federal mine inspectors, and an examination of published records.

Why should there be further delay in taking the necessary preventive measures? Why continue NEEDLESSLY to destroy property in an essential industry and sacrifice additional hundreds of precious human lives?

# Needless Coal Mine Accidents

## A Program for Their Prevention

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BY JOHN B. ANDREWS

*Secretary, American Association for Labor Legislation*

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**M**Y first trip underground in a coal mine was twenty-three years ago, but I became especially interested in coal mine accidents at the time of the Illinois Cherry Mine Disaster in 1909. That catastrophe, where 259 were killed, resulted in some improvements in mine practice and, with other mine disasters of the period, led to the creation in 1910 of the United States Bureau of Mines. Its first director, Dr. Holmes, until his untimely death, was an officer of the Association for Labor Legislation. For fifteen years—in the midst of many other activities—we have attempted to follow the general progress of scientific research and to aid in the practical application of improved safety measures.

Safety in this country has, up to this time, received most public attention in factories. Probably this is due in part to the presence of women and children in manufacturing establishments, but it is also because factories are, day after day in many thousands of communities, much more under the eye of our citizens. Coal mines are much more remote. They are thought of principally in relation to the price of coal. And the human cost of mining coal—the maimed bodies and shortened lives of those who dig down into the earth—has not received sufficient public attention.

There is a powerful labor organization in this industry, but it has concentrated its attention principally upon the obviously important matters of wages and hours. Some mine operators, we find, are making splendid efforts to reduce accidents; many others are "leaving safety to chance."

I have found among mining engineers as well as among coal operators a surprising readiness to assert that of course the cost of needed safety precautions must be added to the price of coal. Is this declaration warranted by the facts? The profits made by many coal companies do not suggest that all of the cost of preventing coal mine accidents need be passed on to those who buy the coal. Moreover, accident prevention work, in thousands of instances, has paid for itself.



### Shameful Indifference to Safety

More intensive study of this problem during the past year, in Europe as well as in this country, I regret to say, has left me sorely troubled by the appalling and needless hazards in our coal industry.

In the United States we are killing coal miners three times as fast as they kill them in Great Britain. I have great interest in the safety movement in America. I point with pride to it at every opportunity. But we will probably all agree that the way to get the best results in any industry is to face the facts and then make use of them.

It happens that for 1919, 1920 and 1921, the latest years for which comparable statistics are available, our fatality rate per thousand coal miners employed has been a little more than three times as great as their fatality rate in the United Kingdom.

Voluminous government reports have been saying this in tabular statements. But the fact has not as yet "got over" to the public.

FATALITY RATE PER 1000 WORKERS			
<i>Year</i>	<i>United Kingdom</i>	<i>United States</i>	<i>Ratio</i>
1919	.94	3.03	3.22
1920	.88	2.92	3.32
1921 <sup>1</sup>	.66	2.42	3.67

Moreover, one may point out, as did a leading statistician before the National Safety Council in 1923, that, "More disturbing than the appallingly greater fatality rate is the fact that the relative fatality rates, though fluctuating rather widely, show on the whole a decided increase."<sup>2</sup>

As clearly brought out at the Chicago conference of the Association for Labor Legislation in 1922 by Geo. S. Rice, chief mining engineer, and Wm. W. Adams, statistician, of the United States Bureau of Mines, "Over a period of ten years (1911-1920) the average fatality rate has been 1.2 in Great Britain and 4.3 in the United States."<sup>3</sup>

But in the United States the coal seams are in general much thicker and more accessible and we employ more and larger

<sup>1</sup> In both countries during 1921 the mines were closed for a considerable period.

<sup>2</sup> Royal Meeker, Secretary, Pennsylvania Department of Labor and Industry.

<sup>3</sup> The experts of the Bureau of Mines figured this out by comparing the actual number of coal miners employed in Great Britain with the number of theoretic 300-day workers in the coal mines of the United States, making due allowance for the greater irregularity of employment in American coal mines.

machinery. Naturally our output per man employed is several times greater. This has suggested to the apologists for our shameful fatality record that we should measure our fatality rate by output in tons rather than by the number of human beings killed per thousand of full time workers. I am glad to note that the secretary of the Pennsylvania Department of Labor and Industry—a statistician of international reputation—has branded this suggestion “to measure deaths and disabilities of workers on a tonnage basis” as “utterly erroneous and bad statistics.”<sup>4</sup> Dr. Meeker properly adds: “The only just and accurate basis of reference is the man hours worked, during which time the workers were exposed to the hazards of industrial accidents. \* \* \* The lower fatality rate per thousand tons is due to the fact that human lives are sacrificed to the God of Big Output.”

But despite the unfairness of the tonnage basis, it may be interesting to note that while the American miner produces more than three times as much coal as does his British competitor, the comparative fatalities are as 1. to 1.16 per million tons mined.<sup>5</sup>

### Appalling Hazards in Bituminous Mines

Turning to the hazards in the bituminous coal industry of the United States we find the fatality rate still higher than for the coal industry as a whole. During the ten years to 1922, the United States Bureau of Mines reports that at the bituminous coal mines alone there were killed 18,243 miners, the average fatality rate being 4.30 per 1,000 employed.

Of the average of 1,824 bituminous coal miners killed each year about one-half met their death from falls of roof and coal, about 18 per cent were killed by mine cars and locomotives, about 12 per cent by gas and coal dust explosions, and the remaining one-fifth lost their lives from other causes.

“No general statistics are available on non-fatal injuries in the bituminous coal industry, because there is no uniformity among the states in reporting such accidents.”<sup>6</sup> This “daily sniping” of miners underground is not yet counted for the whole country.

But from compensation insurance experience in Pennsylvania it is estimated that the bituminous coal industry in that state alone

<sup>4</sup>Royal Meeker, “International Aspects of the Safety Problem,” paper read before the National Safety Council, 1923.

<sup>5</sup>Report of Committee on Safety in Bituminous Coal Mining, U. S. Coal Commission.

<sup>6</sup>Report of Committee on Safety in Bituminous Coal Mining.

loses approximately 1,165,900 days' service yearly on account of about 28,800 serious non-fatal accidents, which result in a compensation cost of approximately \$1,497,000 annually.<sup>7</sup> There is also to be considered the property and production loss running into millions.

This is a record of striving for large output with less consideration for safety than for both high dividends and high wages. Officially it is a record of decentralized administration—of protective state regulations that differ almost as much in character as does the degree of their enforcement from state to state. It is a record at best of tardy adoption of safeguards—lagging years behind engineering knowledge of what can and ought to be done. It is a record of appalling and needless loss of property as well as human lives, which have been sacrificed to speed, greed, and indifference to the public interest.

As pointed out by occasional writers on this subject the loss of 150 lives at one mine disaster and 250 at another, as we read of them in the papers, "are mere figures to us, they have no human meaning. But if we could stand at the mouth of the mine upon its reopening after an explosion and behold the seemingly endless column of charred bodies borne hour after hour to the surface; if we could witness the long line of hearses on their way to the hillside burial ground; if we could hear the heartbreaking sobs of stricken widows mingled with the pitiful wails of little children bereft of their fathers; if we could go in the days that follow to the bare homes deprived of their breadwinners,"<sup>8</sup> we would then perhaps begin to appreciate the loss.

### **Mine Accidents Can Be Prevented**

The United States Bureau of Mines, says a recent authoritative report,<sup>9</sup> has demonstrated clearly how to avoid explosions, how to use explosives, what lamps are safe, how to install and use electrical equipment, when to declare a mine gaseous and how to reduce accidents from falls of roof and from transportation.

I believe it is a reasonable statement that two-thirds of the fatal and serious accidents at the bituminous coal mines of this country could be prevented by the universal adoption of safety methods already in successful operation at some of the mines of this country

<sup>7</sup> Deduction from Report of Committee on Safety in Bituminous Coal Mining.

<sup>8</sup> John Randolph Haynes, M.D., in U. S. Senate Document No. 265, 62nd Congress, 2nd Session, p. 11.

<sup>9</sup> Safety in Bituminous Coal Mining.



or in Great Britain. As a result of practical experience with safety legislation during fifteen years, and through our own recent studies of this subject in Europe and America, our Association has gradually drawn up, from the public point of view, a suggestive program for prevention. This has been done after consultation with mine operators and engineers, representatives of the miners' organizations, state and federal mine inspectors, in addition to a careful study of published reports.

The very valuable reports of the United States Bureau of Mines, since its organization in 1910, have dwelt year after year upon needless hazards in the coal industry. Now we have received from a committee that is representative of coal mine operators, coal miners, casualty insurance interests, mining engineers, mine inspectors and statisticians, a new and informing report prepared under the chairmanship of the well known engineer, E. A. Holbrook, dean of the mining school, Pennsylvania State College. Let us consider briefly the findings of this representative committee of practical men submitted recently to the United States Coal Commission.

This new report strikingly reinforces earlier evidence upon which our Association for Labor Legislation recommendations are based. It will economize space and unify the statement if our Program for Prevention and the findings of this latest official Report are discussed together.

Our first proposal is:

**I. The adoption of uniform legal minimum standards of safety.**

Beginning with Ohio in 1874, most of the coal mining states have adopted mining codes, the most comprehensive perhaps being that of Pennsylvania where the first official mine inspection was instituted in 1870. These codes—while differing widely in scope and effectiveness—include such provisions as were at the time of their adoption regarded as a step in advance, or the best that could then be passed through the state legislatures. Minimum requirements as to exits, ventilation, proper timbering, safety lamps, electric wiring and blasting regulations, are typical features of these state codes. Many of these laws now need thorough revision to bring them into line with modern engineering knowledge and the best mining and administrative practice. Our Association has noted a growing conviction that unless state regulations are generally and rapidly improved, the sug-

gestion is to be expected that operations in this industry which are regarded as in the nature of a public service should be subjected to some form of federal control.

It is scarcely necessary to repeat here what is again tersely stated<sup>10</sup>—that “non-conformity among states in their mining laws is a handicap to safety and a disturbing economic element in competing fields in adjoining states.” The mine safety committee asks, “How can a safety law, costing, say five cents a ton, be enforced in one state, when the competing mines of a neighboring state have no similar law?” A fair question. Too much emphasis has sometimes been put on the interstate competition argument in protective legislation, but there is a real problem here that calls for uniformity of minimum legal standards.

Consumers are interested in this question. The coal miners argue that the extra hazardous nature of their occupation justified a higher wage. The coal mine owners insist that higher wages must be reflected in a higher price for coal. Moreover, coal operators in one state object to safety requirements that result in added cost in their own mining operations when the same regulations are not uniformly placed upon their competitors in adjoining states. The public, which ultimately pays the cost also of accident compensation, has a right to insist upon reducing the cost of needless accidents through the universal use of practical safeguards.

It is of course recognized by the safety committee that “accidents from falls of roof and from transportation are due to many different causes, each of which generally needs careful local study.” And of course “every company should foster first aid, provide a safety inspector, and provide instruction in safety.” On the other hand “the expense of a complete approval system for gassy and dusty mines is large, too large for the individual states to carry out. Nation-wide uniformity,” declares the committee, “is desirable.” And the need of some additional authority is plainly apparent in view of the fact that “in 1922, only 18.2 per cent of the explosives used in coal mining were permissibles.”

It is the belief of the practical experts, who have just reported on this subject, that the various recommended safeguards will gradually be adopted by the industry, but they say “under present conditions it should be remembered that neither operators nor miners like to change customs and appliances with which they are familiar.”

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<sup>10</sup> Report of Committee on Safety in Bituminous Coal Mining.

"While many of us oppose so-called government paternalism," concludes the safety committee, "yet we believe it is the duty of the government to secure safety of life by wisely directed legislation. If the compulsion by the government to use life-saving devices, as the air-brake and automatic coupler on our railroads, is proper, we believe the coal industry should prepare (especially in new operations) to universally adopt safety suggestions."

The second proposal is:

- II. The use underground of no explosive that is not after scientific investigation numbered among the "permissibles"; the strict limitation of "shooting off the solid"; and the use of shale or approved rock dust to check the spread of coal dust explosions.

In general it is a sound principle to encourage the greatest possible local and representative committee study and formulation of safety standards. Our Association has consistently recognized this. But it sometimes happens that necessary technical scientific research has reached positive conclusions supported by practical experience, at the same time that there is urgent call for efficient and direct application of measures to save human life. Such an example is found in the remedy for coal mine explosions.

I was shocked during a visit this year to middle western states to learn how extensively black powder is still being used. Reference has already been made to the fact that despite the painstaking scientific work of the federal government only about 18 per cent of the explosives used last year were permissibles. Does this condition not call for something more than the purely voluntary acceptance of safety precautions by isolated coal operators? Obviously, black powder should rarely if ever be used, and permissible substitutes should be adopted as is recommended by the coal safety committee. Moreover, the use of large quantities of powder, without undercutting the coal, should be discouraged.

Another important related problem is the extension throughout the mine of explosions, due to the throwing into suspension and the rapid ignition of coal dust. The remedy is to provide quantities of shale dust, the particles of which come between the floating particles of coal dust and arrest the process of ignition and explosion. Of the federal Bureau of Mines' splendid research work of a dozen



years at a cost to our tax payers of millions of well-spent dollars, "the outstanding accomplishment is the practical demonstrations of the cause and nature of coal dust explosions and the development of methods for their limitation and control by use of rock and shale dust. The cause and nature of coal dust explosions has been 'sold' to the industry," continues the coal safety committee, but "an equal work remains of getting the industry to adopt the best methods for their prevention."

There are not, to my knowledge, more than three substantial coal companies in America that are using this simple, reasonably inexpensive, and effective safeguard against coal dust explosions. While making inquiries in Europe I learned that at least France and England compel the use of shale or rock dust by national law. And in talking recently with the chief of the British Department of Mines I found that before the adoption of official regulations on the subject, British employers were not unlike the vast majority of our own coal mine operators. At first they wouldn't believe coal dust is explosive. When it was conclusively demonstrated in experimental mines, they then said, "Well the coal dust in my mine is not explosive!" And when the explosibility of this too had been proven, they fell back upon the objection to the cost of adopting so simple a measure.

Says the committee on mine safety, "It has been clearly demonstrated" that "gas and coal dust explosions can be limited and controlled by the intelligent use of rock and shale dust." Some coal mines in this country are doing it.<sup>11</sup> And yet, sixteen times during the past twenty-three months the first pages of our newspapers have carried the grim story of the most recent fatal explosion. I submit that if it is necessary on this subject to have compulsory legislation in this country, it cannot come too soon.

As Director Bain of the United States Bureau of Mines has publicly stated: "The great explosions should not be considered to be normal occupational accidents. Investigations carried on by the Bureau of Mines for more than ten years have demonstrated beyond question of doubt that such spreading of explosions by coal dust can be prevented. Responsibility for this rests upon the mine managements. \* \* \* Explosions can and must be prevented."<sup>12</sup>

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<sup>11</sup> An encouraging example is that of the Old Ben Coal Corporation in southern Illinois. See paper by J. E. Jones, safety engineer, in *American Labor Legislation Review*, Vol. XIV, No. 1, March, 1924.

<sup>12</sup> *American Labor Legislation Review*, Vol. XIII, No. 1, March, 1923, p. 38.

Our third proposal is:

III. Reward careful employers and penalize the less scrupulous, by the universal adoption of schedule rating for insurance under accident compensation laws, with a further graduated penalty for cases of willful failure to put into effect legal safety regulations.

Already schedule rating has demonstrated its value in inducing the employer to reduce hazards as a method of reducing his insurance premium. The Association for Labor Legislation has long been impressed with this development in workmen's accident insurance, and the safety committee likewise notes its bearing upon mine safety. By this means, says the committee, "the direct cost of a mine with low safety standards is brought home to the operator. The system has proven a real safety incentive."

In some mining states also there is a special penalty provided of from 15 to 50 per cent additional compensation to the injured worker where it is clear that the employer was guilty of serious or willful misconduct. The same penalty works inversely upon the injured workman in case he has offended, and he then loses a part of his accident compensation. In several states, with reference to certain other labor law violations, double or even triple compensation is assessed directly upon the offending employer.<sup>13</sup>

Familiarity with danger has always bred contempt for it among workers in extra-hazardous occupations, and the coal miners need to feel their increasing responsibility to exercise every practicable safety precaution. But it is nonsense to say—as one editor does and as certain propagandists would have the public believe—that "the coal miner of this generation is in danger only through carelessness, his own or that of a fellow worker." We find refutation of such an assertion right at hand in one of the recent mine disasters—that at the Glen Rogers coal mine in West Virginia, November 6, where 27 miners were killed in an explosion. It has been determined that the tragedy was caused by a spark from the commutator brushes of a drill. "Disregard of the vital requirements of the mining law on the part of the company's representative in allowing the use of dangerous electric drill not approved by the mining department," was the finding of the coroner's jury.

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<sup>13</sup> See article by E. E. Witte, "Treble Compensation for Injured Children" in *American Labor Legislation Review*, Vol. XIII, No. 2, June, 1923, p. 123.

The experts of the Coal Commission stress the importance of official inspection in influencing operating methods and working conditions. They report that those interviewed in many states believed that an increase in compensation benefits would result in a marked decrease in accidents, and they conclude that mining laws and compensation laws are the two great direct factors for mine safety.

The fourth proposal is for:

**IV. An adequate mine inspection staff selected upon a merit basis of training and experience, fairly paid for reasonably long tenure of office, and protected from partisan interference whether political or industrial.**

This proposal is in harmony with the best practical experience in factory safety as well as in accident prevention in mines. Its importance deserves elaboration, but its merits are well understood, and there is opportunity here only to refer to the fact that the coal safety committee also recommends it.

"For the country in general coal mining would to-day be a better and safer industry," the experts say in their report, "were inspectors in every state chosen through strict examination in principles and practices of mining, at a salary sufficient to hold high grade men, and freed from any influence save those listed in the laws and that of their superior officer, and expectant of holding office until retired by natural causes."<sup>14</sup>

Because much of the work is independent of state boundaries and constitutes a national problem, it can best be undertaken under national auspices.

"The (federal) Bureau of Mines, through its investigations, discoveries and recommendations," the Coal Commission investigators find, "has become the authority and leaven for mine safety work in this country."

A million dollars has been spent in developing and equipping, near Pittsburgh, an experimental mine where practical work on underground safety can be carried out by the federal bureau.

"It shall be the province and duty of said bureau," decreed Congress in establishing it, "to make diligent investigation of the methods

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<sup>14</sup> "Natural causes" here does not necessarily refer to mine accidents, but it is a disgraceful fact that several states have persistently refused the protection of workmen's compensation to their official coal mine inspectors.



of mining, especially in relation to the safety of mines and the appliances best adapted to prevent accidents."

But Congress stopped there without giving the bureau the necessary authority.

"The suggestion has been made," now reports the safety committee, "that the engineers and officials of the Bureau of Mines should have the right of entry to a mine, for the purpose of investigating mine accidents, and that their reports should be made public or delivered to the operator through the state department of mines. At present the bureau enters a mine on permission of the operator. The new thought is that an independent report on accident or disaster, by an agency not affected locally, would be beneficial to operators and to miners, and of service to the mining department of the state. \* \* \* At least it would be valuable could the federal bureau cooperate with the state mining departments, by furnishing them confidential copies of reports on conditions investigated within their police jurisdiction."

Despite splendid work by this federal investigation bureau, and by a few of the state bureaus, there is still "little coordination in methods and technique of investigation and inspection of mines for safety." It is believed therefore that to a national agency should be given authority to improve and make more uniform the character and technique of mine inspection "and the improvement and adoption of more uniform safety standards underground." It is interesting to note that our federal experts already have up-to-date operating regulations in effect for the coal mines, now more than one hundred in number, owned by the United States government and operated under lease on the public lands.

Anyone familiar with the progress toward centralization in the administration of mine safety measures in recent years in other countries will, upon comparing their results with the American mine accident record, understand the growth of this sentiment.

Finally, we submit as the fifth proposal:

**V. Greater public authority, federal and state, to procure and disseminate information, and to establish and maintain on a uniform basis reasonable minimum standards of safety.**

In 1911, Dr. John Randolph Haynes, following his inquiry into coal mine safety in America and abroad, addressed the annual meeting of the American Association for Labor Legis-



—International Newsreel

### Where 172 Miners Were Killed in Recent Coal Mine Disaster

Rescuers at work driving an opening through the wrecked entrance into the main shaftway of the coal mine at Castle Gate, Utah, where on March 8 a terrific coal dust explosion sent 172 miners to their death. At the end of a week of frantic effort, all the bodies were recovered, many so badly burned and mutilated that identification was most difficult. Nearly all of the victims were married and they left, it is reported, 868 dependent widows and children.









—Underwood & Underwood

### **Their Men Folks Were Killed in a Coal Mine Explosion**

Mrs. Peter Keck's husband and sixteen-year-old son met death in a coal mine explosion, January 25, at Johnston City, Illinois, where 32 miners were killed. She cannot speak English and has no relatives in this country. The tragedy that bears heavily on Mrs. Keck and her small children has come also in recent months to crush hundreds of other women folks and children in mining communities.

lation on this subject. With eloquence and conviction he pictured the needless hazards in American mines.<sup>15</sup> "Experience has shown at frightful cost," he then said, "that these things can not be left to the volition of the operator or the miner or to the regulation of the individual states." He then urged that a federal enforcing agency, with powers like that of the Interstate Commerce Commission, be set up. "Shall we go on in this country," he asked, "clinging to our inefficient system of state regulation of an industry that is essentially interstate in character until we have uselessly sacrificed the lives of tens of thousands more poor miners, before we stop this slaughter under the only practical system of safety—the federal regulation of the mines?"

Twelve years later we can give part of the answer. We are again counting the dead.

If we really want to prevent this needless loss of human life the lawyers will find a way for us to act nationally, said Dr. Haynes in 1911.

Now comes, in 1923, a conservative federal commission—which after spending three-quarters of a million dollars looking into the coal situation—notes that "coal is not primarily a commodity, it is a service"; "the production and transportation of coal constitute a single service"; "coal is clothed with a public interest". And there follows logically a general proposal by this federal commission for the creation of a coal division in the Interstate Commerce Commission.

There is still difference of opinion among lawyers as to the possibility of securing effective results through federal action without a federal constitutional amendment. Three principal proposals are now being discussed.

(1) Shall we prepare a standard safety code for uniform state legislation? Upon this task a committee has been working and some further improvements can doubtless be made.

(2) Shall we provide for greater cooperation between the federal and state bureaus by means of federal-state financial aid as in the rehabilitation of industrial cripples? There are evident possibilities in such action. Likewise much local jealousy to be overcome.

(3) Shall we go directly for a federal constitutional amendment authorizing the establishment of national minimum standards of

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<sup>15</sup> See *American Labor Legislation Review*, Vol. II, No. 1, pp. 140-152.



safety? Such amendment, which could be made only after a long campaign of education and favorable action by three-fourths of the states, is nevertheless thought necessary by some who have studied the problem most carefully.

But by whatever additional public authority a national minimum of safety is finally assured, there will of course be not less but greater opportunity for the mine departments of our individual states to function effectively in the great work they have to do. Authoritative federal and state cooperation, with the continuous encouragement and assistance of employers, miners, and engineers, is urgently needed.

### **Urgent Need for Action**

Has anyone a better program to offer? The Association for Labor Legislation will welcome any constructive suggestion. Meanwhile it purposes, from its viewpoint of the general welfare, to press insistently for the prevention of needless accidents.

Failure to right the wrong of undiminished accidents in the mining of coal, is in utter disregard of promises made since the Armistice by leading representatives of industry, that business would meet public expectations by voluntarily abandoning anti-social policies if it were kept free from "legislative interference." Many who have waited long years for the majority of the managers of the coal industry to set their own house in order now think they see the futility of waiting longer upon their voluntary action.

Every day that heedless coal mine managements delay the removal of needless accident hazards in their industry—every mine catastrophe that shocks the public through its needless sacrifice of human life—strengthens the argument for the adoption of uniform legal regulations. Moreover, some conscientious employers have made progress in mine accident prevention and it is only reasonable and fair that they be protected from the undercutting of any competitors who have been less humane, less responsive or less scrupulous. Voluntary effort is to be hailed with special enthusiasm, but it is only with the cooperation of supporting legislation, backed up by public opinion, that within a reasonable time the needless industrial hazards can be universally and permanently abolished.

# Coal Dust Explosions

## How They Can Be Prevented—Simple Remedy in Practical Operation

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By J. E. JONES

*Safety Engineer, Old Ben Coal Corporation*

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**C**OAL mine disasters, whatever their origin, seem to inspire greater public interest than other disasters. Those who have seen the frantic crowds of men, women and children at a pit-head after a disaster, roped back to permit the often fruitless efforts of a few chosen trained men to rescue those who might be alive, can well understand the horror and helplessness at such a time.

All the forces of nature seem to be united against the miners in their fight for life. Those who may survive the immediate force of explosion usually are deprived of good air by the destruction of the ventilating system, and are forced to breathe not oxygen but the poisonous "afterdamp." The pumping facilities of the mine may be destroyed and the water slowly but surely rises to snuff out their lives if rescue does not soon come. The roof may fall here and there. A mine fire may rage between the trapped miners and the rescue crew. The disaster may even cripple or destroy the hoisting equipment for entering the mine and in repairing it precious minutes are lost. Rescuers eager to reach those who may be alive assume great risks. Occasionally they, too, lose their lives which means not only adding to the toll of deaths but also causing further delay and hopelessness for those who may yet be alive in the interior of the mine.

Causes of coal mine disasters vary. It was a sudden inrush of water that caused the Diamond mine catastrophe in Illinois in 1882 when 69 men lost their lives. A mine fire was responsible for the Cherry mine disaster of Illinois in 1909 where 259 men were lost. But coal mine disasters in which there is great loss of life are more often started by a relatively small explosion, usually the ignition of gas or blasting explosives, which is propagated throughout the mine by the coal dust, becoming an explosion terrific in violence and heat.

### Disastrous Explosions Are Increasing

In the early history of coal mining terrific explosions did not occur as they have in later years. One reason was the mining at that time of the more easily reached coal near the outcrops where

the seams were practically non-gaseous, the coal high in ash and the mine workings wet because of the surface water. Also, without ventilating apparatus, mine air became deficient of oxygen necessary to propagate the flame of explosions. These conditions are absent in the deep, extensive, well-ventilated underground workings of to-day. The limit of a coal dust explosion depends not upon the supply of coal dust but upon the supply of oxygen. After a coal dust explosion has occurred a mine could be refilled with air and exploded dozens and probably hundreds of times without the addition of more coal dust.

That coal dust is explosive has been known for many years and legislation has been adopted in an effort to reduce the hazard. The laws in the United States are, in substance, to clean and sprinkle the passageways. Laws in Great Britain and France have been enacted in recent years requiring the addition of sufficient incombustible dust in coal mines to prevent the propagation of explosions.

The frequent and disastrous coal dust explosions which have occurred in the United States during recent years impel the mining people and the public to inquire more fully into the hazard and to ask whether the proper methods of prevention have been adopted. **In the opinion of the writer the mining laws of the states for the prevention of explosions are obsolete.**

### **Coal Dust an Ever-Present Hazard**

Removal of the coal dust from a coal mine is practically impossible. This will be understood by one unfamiliar with coal mines who has observed the accumulation of dust in other industries, such as flour and cement mills, even where there is plenty of room for the escape of the dust and its removal. Large quantities of coal dust are being made continuously during each twenty-four hour period. Most of the dust is made by the undercutting, drilling, blasting, loading and transportation of the coal. But even when mining is not in progress coal dust is produced through the natural physical processes of falling roof and side walls brought about by changes in temperature and differences in moisture content of passing air currents.

The finer the coal dust the more easily it is distilled into explosive gas in the event of an explosion. The finest of the dust settles in the most inaccessible places, on the timber and in the cavities of the side walls and roof everywhere in the mine. During mine operation a large quantity of dust is in continuous suspension in the air current. The coarsest of the dust settles to the floor to become mixed with the fireclay by the traveling of men and animals or with sand on mechanical haulage roads. The cleaning of the



roadways causes clouds of this dust to arise, much of it settling in the upper parts of the passageways. This cannot be said to increase the hazard, however, since there is already an abundance of dust to propagate many explosions. All passageways should be clean and well kept for safety reasons, not because coal dust explosion hazards are thereby lessened. Only six or eight ounces of fine coal dust per lineal foot of passageway is required to satisfy the oxygen per lineal foot, so it would be futile to expect to attain a margin of safety even though it were possible to make use of the principle of vacuum cleaning to collect the coal dust.

Thorough saturation of a mine with water would, of course, lessen the possibility of a coal dust explosion by mixing this incombustible matter with the coal dust, getting a cooling effect and preventing the dust from being suspended. While the thorough saturation of the entire mine is a practical impossibility, yet saturation of certain localities is that much gain in safety. A coal mine very early in life develops inaccessible places which cannot be ventilated or watered. A violent explosion originating in such a place could easily evaporate sufficient water in a saturated passageway to permit the propagation of the explosion. In many coal seams saturation is ruinous to the property, in that spalling or rashing of the side walls, falling of roof and heaving of the fireclay floor results. Cold air contains less moisture than warm air so that in the summer moisture is taken into the mine and in the winter moisture is taken out of the mine. In a mine where 250,000 cubic feet of air is supplied per minute 150 tons of water may be taken out during each twenty-four hour period by the air current in the winter time. Assuming a sufficient water supply the even distribution of the water required to replace only that quantity evaporated from the mine would be extremely difficult if at all possible.

The ignition of coal dust comes from such sources as an unusually long and intense electric arc or a blast of powder with flame, from gas explosions, and even directly from a miner's naked light.

Records show that the majority of explosions are caused by a naked light igniting gas, the local gas explosion then being propagated through the mine by coal dust. Naked lights cause other fatalities than those due to explosions, however, as evidenced in the Cherry mine disaster when 259 men lost their lives by fire, and in the Decatur mine where a smouldering cigarette caused a fire which suffocated six men. During the past twenty-seven years in Illinois, 60 men have lost their lives, usually one at a time, by dropping a spark from a naked light or while smoking, into powder while preparing their powder for blasting.

### Safety Progress in a Hazardous Coal Field

The Franklin county, Illinois, coal field is a comparatively new field. It was first mined in 1904. It now has an annual capacity of nearly twenty million tons. The mines are gaseous and the coal dust is very explosive. The fatality rate for the period 1904-1921 is nearly double that of the state for the same period. The difference in the rate is largely due to fatalities caused by explosions.

The number of fatalities in Franklin county mines from all causes during this eighteen-year period was 533, of which 203 were caused by gas and coal dust explosions. Table No. 1 with graph gives data on fatalities from all causes. Table No. 2 with graph shows that three times as many deaths were caused by coal dust explosions as by gas explosions.

Progress in safety against explosions in Franklin county has been very encouraging. The chief improvement has been a better understanding of the dangers of gas and consequent greater respect for it. Formerly naked lights were often used by examiners during their examination and it was considered a great joke to frighten someone by igniting a pocket of gas. But this is past history for the county. The great majority of the men employed underground are aware of the dangers and comply with the safety regulations adopted. One of the chief factors in reducing accidents has been the change from the use of black powder to permissible explosives for blasting.

How greatly the fatality rate in the county has been lowered from 1904 to 1922 is shown in Table No. 3 in which the first nine-year period of the eighteen years is compared with the last nine-year period. The average of the fatality ratings has been reduced to less than one-half those of the first nine-year period.

TABLE No. 3.

<i>Period</i>	<i>Killed</i>	<i>Employed</i>	<i>Killed per 1,000 employees</i>	<i>Tonnage</i>	<i>Killed per million tons</i>
1904 to 1913	156	17,935	8.70	65,493	11.17
1913 to 1922	377	88,679	4.25	86,904,726	4.34

### An Explosion Teaches a Lesson

On Thanksgiving night, November 29, 1917, the Old Ben Coal Corporation, which now operates nine mines in Franklin county and three mines just across the line in Williamson county, experienced a disastrous gas and coal dust explosion in its Mine No. 11

at Christopher. The mine is one of the most modern mines in the nation and was but four years old at the time of the explosion. The development of the mine was no greater than 4,000 feet in any direction from the shaft bottom and the ventilation was very good. The gas content on the main returns have rarely reached 0.2% in methane.

A short circuit of the air current, due to a door being left open

TABLE No. 1  
(With Graph)  
FATALITIES FROM ALL CAUSES

<i>Cause</i>	<i>Number</i>	<i>Per cent</i>
Gas and Coal Dust explosions.....	203	38.09
Haulage equipment .....	124	23.26
Roof, face and rib falls.....	107	20.08
Hoisting and shafts .....	25	4.69
Powder ignition explosions and return to shots.....	22	4.13
Electricity .....	18	3.38
Railroad equipment .....	13	2.44
Falling Persons and objects .....	8	1.50
Machinery and mining machines .....	7	1.31
Explosions and suffocation other than by mine gas or powder .....	6	1.12
Total .....	533	100%

TABLE No. 2  
(With Graph)  
GAS AND COAL DUST EXPLOSION FATALITIES

	<i>Explosions</i>	<i>Fatalities</i>	<i>Per cent</i>
Gas and Coal Dust, origin unknown.....	1	51	25.1
Gas and Coal Dust, naked light ignition.....	4	99	48.8
Gas, naked light ignition.....	10	18	8.8
Gas, mine fire ignition.....	3	32	15.8
Gas, electric arc or naked light.....	1	1	0.5
Breathing Apparatus, after explosions.....	2	2	1.0
Total .....	19	203	100.0

Number of fatalities caused by gas explosions which were propagated by coal dust... 153

Number of fatalities caused by gas explosions which were slightly or not at all propagated by coal dust... 50



at a crosscut 400 feet from the face of the main east entry, caused an accumulation of gas on top of an abrupt knoll near the face of this entry. This section of the mine was quite wet both inby and outby this gas accumulation; that outby being a swamp 300 feet in length which the explosion was compelled to cross before being propagated into any other section of the mine. The percentage of coal dust was exceedingly small in this territory compared with that in a producing section, since the work done was development only, none of the producing sections having been developed or even reached.

Since the day was a holiday only part of the night shift reported for work. Seventeen men were in the mine. One of the men, a pumpman, went to the main east entry to start an electric pump to remove the water from that section preparatory for the next day's work. His carbide naked light ignited the gas.

The ensuing explosion was of sufficient violence and heat to dry the saturated coal dust in the immediate vicinity enough to permit the coal dust to propagate the explosion with intense violence and heat throughout the entire mine, wrecking the mine in every direction, especially close to and in both shafts, and instantly killing all of the men.

Had this explosion occurred on the day shift with its 600 men underground, every man would have been killed and Franklin county would have had the worst mining disaster if not the worst industrial disaster of the United States.

Considering the large volume of air, the apparent absence of coal dust and the wet condition of the territory where this explosion originated, one can easily understand the hazard of a mine explosion and the futility of attempting to clean and sprinkle a mine to prevent the propagation of an explosion.

This experience caused the officials of the Old Ben Coal Corporation to lose the little faith they might have had in the theory of watering and cleaning to prevent coal dust explosions.

The explosion also forcibly impressed them as to the hazard of naked lights, especially in a gaseous mine where the forgetfulness of one out of 600 employees might result in leaving a door open for considerable length of time, or cause other derangement of the ventilation, permitting the accumulation of the explosive gas or the entrance into a forbidden place containing gas by a miner with a naked light.

### **Why "Shale Dust" as a Preventive?**

Installation of enclosed lights and shale dust was then decided upon by Mr. D. W. Buchanan, president of the company. When

the mine where the explosion occurred resumed operations it was on a strictly enclosed light basis. This, however, was following a three months' strike by the miners against the enclosed lights. The company now has three mines on a strictly enclosed light basis and all its mines on enclosed lights from quitting time of the day shift until starting time the following morning.

Shale dust installation necessitated considerable study. From a representative mine of the company samples of dust and air were collected by a Bureau of Mines engineer and these samples were sized and analyzed by the Bureau of Mines.

Voluminous analyses showed that **the most dangerous dust is laid along the aircourses, at the working faces and on the roof and ribs of haulage roads** and that the dust along the floor of the haulage roads is generally sufficiently high in ash not to be a hazard when compared with the other coal dust accumulations.

Five tons of coal were also sent to the Bureau of Mines experimental mine from this representative mine to be ground into dust and experimented with as to its explosive properties. A commission of mining men from the state of Illinois and Old Ben Coal Corporation were present at the Bureau's mine during part of the experiments. These tests showed, in part, that Franklin county mine dust containing 42.82 per cent of incombustible matter with no gas present did propagate an explosion, and that mine dust containing 58.66 per cent of incombustible matter with no gas present did not propagate an explosion. The test also showed that dust containing 58.17 per cent of incombustible matter with 1.1 per cent methane present and dust containing 66.72 per cent incombustible matter with 2.2 per cent methane present both propagated explosions. Demonstrations were also given in the experimental mine showing **the successful extinguishing of the explosion flame by means of rock dust** in the Taffanel and concentrated barriers.

The first problem in the rock dusting of the mines was the source of an acceptable dust. Purchased limestone dust was tried but this was found to be too coarse and contained too much silicious material. Surface road dust was also tried with the experience that a small amount of moisture would cause this dust to cake and lose its identity as a dust. **The shale overlying the coal seam was analyzed and found to be exceptionally good for the purpose required, hence the name shale dust.**

Old Ben Mine No. 9 was chosen as the logical mine from which to obtain the shale and prepare the dust because of the cage equipped material shaft and the adequate railroad connections for the field.

A mill for the grinding of the shale into dust is installed at this mine, the mill having a maximum capacity of 40 tons of dust per day. The grinding is done in two separate stages; in the first hammer crushers break the shale into one-inch cubes, and in the second a ball mill, equipped with cloth screens and suction fan, grinds the cubes into a very fine dust.

The shale is almost entirely incombustible.<sup>1</sup> The very small percentage of combustible matter is due mostly to particles of coal attached to the shale and to the loading of shale in cars that are used for coal. This combustible portion is so small as to be considered negligible.

Ten tons of the shale dust were sent to the experimental mine of the Bureau of Mines and tested. The results of the tests were very gratifying.

### Shale Dust + Panel System = Safety

Early in the mining experience of the county it was learned that the panel system of mining was the best adapted for safety in localizing explosions and mine fires. The panel system, where panels are not connected to each other, gives a unit system of mining whereby each unit or panel is a territory by itself with unbroken coal pillars between it and all other units or panels, the only openings being the two entries from a pair of main entries for ventilation and haulage. The distance from one pair of panel openings to another pair is usually 500 feet.

Since the purpose of the shale dust installation is to localize explosions, these two entries are the most important ones in which to install dust. An explosion cannot get into or out of a panel without passing through these two openings. Therefore, the shale dust is installed from the first room on each panel back to the entries from which the panel is turned and along these entries for 100 feet in each direction, the trackless passages having shale dust trough installation and the haulage roads having the roof and side walls coated with the shale dust. (See accompanying diagram on page 43.) In addition to this protection each set of panels is protected by an Old Ben concentrated barrier.

<sup>1</sup> Analysis of the shale showed moisture 1.29 per cent, carbonaceous and coal or other volatile matter 6.05 per cent, carbon dioxide 0.48 per cent, and residue or ash 92.18 per cent.

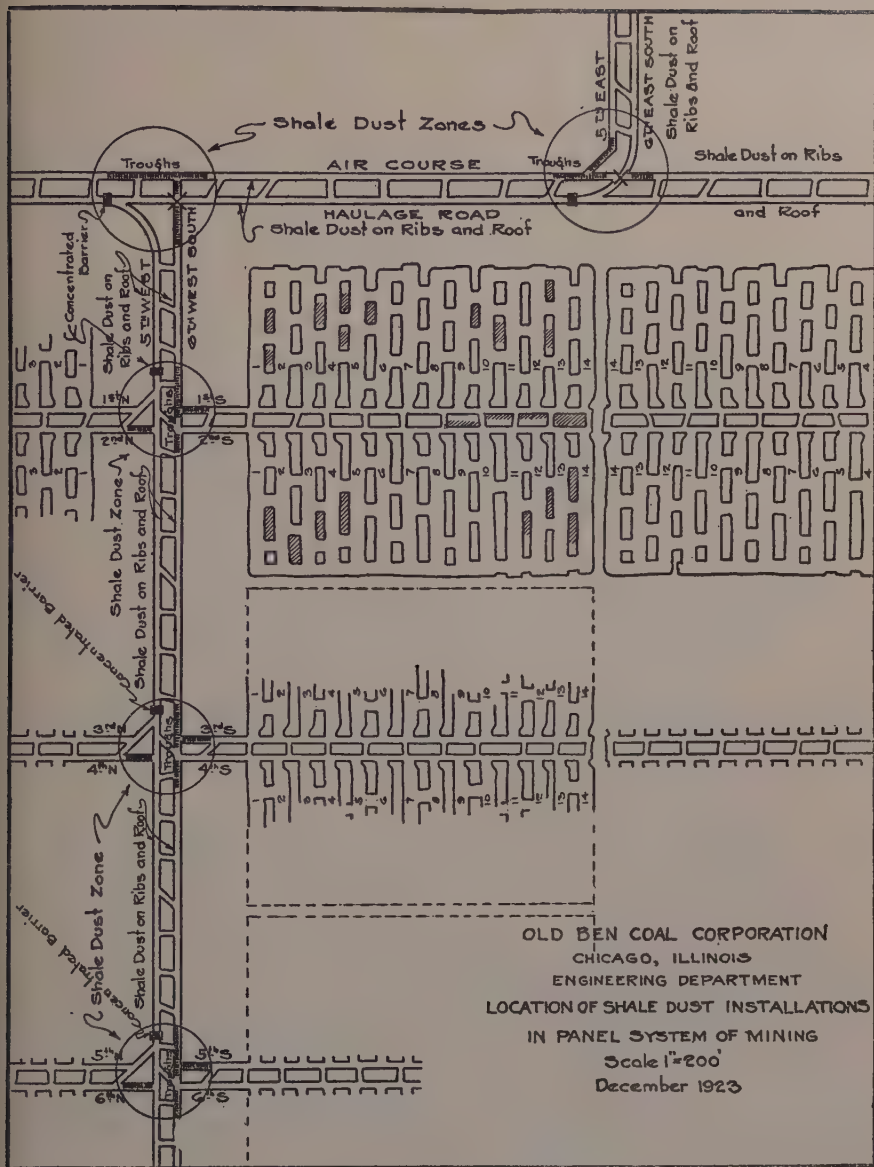
The accumulative sizing of the Old Ben shale dust is as follows:

Mesh .....	150	200	255
Per cent .....	All	97%	92%

The required accumulative sizing by the Bureau of Mines is as follows, showing that Old Ben dust fully meets the requirements:

Mesh .....	150	200
Per cent .....	All	75%





### Where Shale Dust is Installed for Safety

This diagram of the passageways and working "panels" underground in a coal mine shows the position of the "shale dust zone" at each pair of panel openings as well as the location of troughs filled with shale dust, the sections where ribs and roof are coated with shale dust, and the "concentrated barriers" of shale dust—all of which serves to prevent the spreading of a coal dust explosion throughout the mine.

Possibly of no less importance is the protection of all haulage roads and aircourses. Haulage roads are protected with the concentrated barrier at intervals of 500 feet or less, the aircourse opposite the barrier having the trough installation. In addition to this protection the shale dust is now being mechanically applied by small portable high speed fans on the roof and side walls of all the haulage entries and is being blown into the aircourses to be carried into the mine and deposited, all this giving a very high incombustible content from the shaft bottom to Room No. 1 of each panel.

**Concentrated Barriers**—The Old Ben concentrated barrier has been designed with two purposes in view; (1) placing in suspension a large amount of the shale dust in as simple a manner as possible by the action of an explosive force, and (2) making certain that even though the device should be tripped accidentally or mischievously no part of it would fall a sufficient distance to injure a person who might be under it, or endanger those on moving trips while approaching or passing under a barrier. The barriers are built in roof cavities blasted for that purpose and hold from one and one-half to three tons of dust. The bottom of the barrier is usually approximately in the same plane as the roof. The bottom or floor of the barrier is made of several, usually four to six, 2" x 12" or 2" x 14" planks, each plank being approximately six feet in length, dependent upon the width of the barrier. Each of these planks is hinged on one edge, this hinged edge resting on the barrier sides. When free to move, the width of the plank hangs vertically. The floor, when the barrier is ready to be filled, is in a horizontal plane, the free moving edge of all the planks being held in place by a beam which rests on two trigger vanes. Each of these two trigger vanes may be tripped from either direction, the displacing of either vane causing the floor of the barrier to swing down about ten inches and permitting the dust to flow down through the openings thus made in the floor. The flow of dust continues for ten to twenty seconds and gives a dense dust screen over the entire cross section of the passageway.

**Shale Dust Troughs**—The shale dust trough is V-shaped made from 1" x 8" lumber and is from five to eight feet in length dependent upon the width of the passageway. The troughs are filled with the dust, from fifty to eighty pounds in each, and placed on two small notched pieces of wood which have been nailed to framework. The troughs are placed close to the roof having sufficient clearance to permit each trough to dump from a slight explosive force. A violent explosion would, of course, tear out the entire installation but with a slight force the trough will turn part way over in the direction of the force, retaining about one-third of its dust to be thrown in the opposite direction should a reaction of the explosion occur. The installation of the troughs close to the roof causes a dense dust screen to be made in the entire cross-section of the passageway should they be dumped and in this position they give the least obstruction to ventilation and travel of persons. Wherever concentrated barriers are installed on the haulage, shale dust troughs are installed in all trackless passages of adjacent parallel entries to give a complete barricade of shale dust.

**Shale Dust on Roof and Ribs**—On haulage roads in the shale dust zones the dust has been thrown on the roof and ribs by hand, a very large percentage of it falling to the floor. The fluffiness of the dust causes a large part of it to be carried along the entry by the air current, settling on timbers, ribs, roof and bottom for long distances from where the dust is being spread. Recent successful work has been done with small high-speed portable fans, the dust being fed into the intake of the fan and conducted with a large diameter hose depositing the dust where required. The success of this method bids fair from a cost and efficiency standpoint to offset the necessity of the large number of concentrated barriers now in use in each mine.

**Shale Dust on Elevated Platforms**—These platforms are usually made from broken and discarded ventilation doors and are elevated from two

to four feet from the floor. The principal purpose of these platforms is to supply additional shale dust in the event of an explosion and the secondary purpose is to give a supply of dust for refilling of troughs. Storing shale dust on the mine floor results in considerable waste because the dust absorbs moisture from the fire clay and becomes mud, or is trampled into a solid mass that would prevent the dust from being thrown into suspension. The closer to the roof the dust is stored the greater the possibility that it will be thrown into suspension quickly in the event of an explosion.

### The Story of Seven Explosions

Since the adoption of the shale dust system, seven explosions have occurred in the Old Ben Mines. In two the flame did not reach the nearest shale dust zone. Three occurred in or within a few yards of a shale dust zone and did not get out of the zone. One occurred between two zones and was stopped in each direction by each zone. One originated seven hundred feet in by a shale dust zone and was stopped by the first zone reached.

It is illuminating to examine in detail what happened in each explosion. When you come to the fourth and the sixth you will observe that these two explosions originated away from the zones and were stopped by the shale dust. **These two experiences are the most demonstrative and conclusive that the shale dust stopped violent explosions and prevented them from spreading through the mine.** In none of the seven explosions did the reaction bring flame back into the territory where the explosion originated.

The first explosion was that of June 6, 1919, in Mine No. 10 at Christopher at which time naked lights were used in this mine. Caved, inaccessible and non-ventilated old workings were being approached by a pair of entries and all men working in this pair of entries used electric safety lamps. Advanced holes were drilled before each machine cutting and none of these holes penetrated into the old workings. One of them, which was twelve and one-half feet long, came within six inches of going through and would have gone through had it not been for an eighteen-inch protrusion of coal.

A part of a machine cutting had been made towards the advancing entries from the old works side and the machine man unknowingly cut under one corner of the old cutting making a hole under this cutting about 1.5 inches in diameter.

The machine men left the entries and the loaders resumed their work. The motorman and triprider were in the act of going in after a loaded car and were pushing an empty car with the motor, the triprider being on the front end of the pushed "empty" and using a naked light. As he entered the explosive mixture the gas was ignited and the two loaders and triprider fatally burned. The

result was more of a conflagration than an explosion. A shale dust zone had been installed at the entrance to the panels and the shale dust was blown into suspension. The flame, however, did not reach the shale dust and coal dust did not enter into the explosion.

The second explosion occurred at Mine No. 8 on July 11, 1919, in a locality where the limestone dust had been used, the original limited amount of dust being installed in the sections considered most hazardous. The mine was operating on this day, there being 530 men underground. An assistant mine manager was 500 feet inby and walking towards the explosion origin. Two electricians with naked lights were working near a worked out panel. The ventilating fan stopped temporarily. The naked light of one or both of these men ignited the gas at the panel entrance.

The assistant mine manager saw the entry fill with flame and the flame coming toward him. Before he had time to get flat on the floor, he saw the flame burst into millions of sparks and then apparently total darkness. Upon further investigation it was found that the flame had reached the shelves upon which the lime rock dust had been installed and was there extinguished.

The two men were burned slightly. This was in the early history of the rock dusting when but few of the men had faith in what was claimed the dust would do.

The third explosion was a slight one at Mine No. 9, West Frankfort, on the day shift of August 9, 1920. The gas was ignited about 200 feet from the face of a room in a panel that was being finished. Two men, the only ones working in the panel, were burned slightly. The panel was preparing to cave and a little gas was expected but could not be detected. These men were supplied with electric safety lamps but one of them later decided to use his carbide light which resulted in the ignition of the gas. The flame did not travel out of the room but sparks were blown about 500 feet in all directions.

The shale dust equipment at the panel entrance operated throwing shale dust into suspension. Coal dust did not enter into this explosion.

### **Disaster Prevented by Shale Dust**

The fourth explosion occurred January 14, 1921, on the night shift of January 13 at Mine No. 8, West Frankfort. This mine and all other Old Ben naked light mines use enclosed lights exclusively from quitting time on the day shift—from the time the shotfirers who use naked lights come out of the mine—until starting time the next morning. Smoking is prohibited.



On this occasion 41 men were in the mine and 21 men, including the assistant night boss, were in the immediate vicinity of the explosion.

A panel in this vicinity had recently caved and was being carefully watched for the generation of gas, with examinations made every one to three hours. Practically no gas had been found prior to the explosion and no greater quantity of gas was found there after the explosion even though all brattice and doors had been blown out and the ventilating current swept away 300 feet from the edge of the fall.

Nine of the 21 men were working between two shale dust zones; four men were in the innermost of these two zones and eight were just out by the outermost of these two zones. The men were scattered along a distance of about 700 feet of entry, cleaning roads and gobbing dirt in old rooms. The cleaning of the roads caused considerable coal dust to be in suspension. While four of the men working between the two zones were taking a rest, one lighted a match for a smoke which either ignited the dense cloud of coal dust direct or ignited gas, causing the explosion.

Coal dust immediately propagated the explosion, the flame severely burning the men who were between the two shale dust zones, two of them dying later. **The flame was extinguished in each direction by the first shale dust zones encountered and none of the men who were on the opposite side of either of the two zones between which the explosion originated were injured or burned.** The force of the explosion was sufficiently strong to blow out twenty-five wood stoppings and four doors. Shale dust was in evidence everywhere. All the men were covered with the shale dust and looked more like millers than miners. **Those who were saved were enthusiastic in their praise of the shale dust, saying that their lives were undoubtedly saved by it.** The men who were in the flame affected zone stated that the flame there was soon extinguished by the shale dust brought there by the reaction of forces and that the very high temperature was soon lowered, making the difficult breathing easier and the temperature endurable.

The work of rescue was not difficult as compared to the usual work of rescue after an explosion since it was possible to travel almost directly into the entire explosion-affected territory with very little bratticing since the territory was neither unbearably hot nor gaseous and no fires had been started.

The men who were in the other parts of the mine were probably saved by the prompt action of the shale dust for coal dust had

already entered into the explosion and would in all probability have propagated it throughout the mine had it not been for the intervention of the shale dust.

The electric safety lamps made it possible for all who were able to get to fresh air at once and made the finding of the others relatively easy since their lights were not affected by the explosion.

The fifth explosion occurred at Mine No. 9, West Frankfort, on July 13, 1921, during an idle day. An assistant mine manager was traveling with a motor from a section of the mine where four men were working to another section where other men were at work. He was alone and had an electric and a flame safety lamp. He passed a sealed pair of panel entries which were generating gas. The fan had stopped in the meantime causing gas to accumulate outside the seals at these panel entrances. A shale dust zone had been installed at these entrances, the zone extending about 100 feet in each direction on all entries.

The motor passed almost through the body of gas without making an arc on the trolley wire. Upon reaching the extreme end of the body of gas the trolley wheel flew off the wire causing an arc and igniting the gas. The flame traveled back into the gas rather slowly, giving the man time to get off the motor and to lie down along the rib side. The explosion was very violent, knocking down an I-beam and blowing out three concrete stoppings, two wood stoppings and a door.

The man was thrown through one of the bursted concrete stoppings into the opposite entry but was not seriously injured. The flame traveled to the dust barrier which had collapsed, causing a curtain of dust to be falling during the explosion. One side of the barrier was charred but the flame did not extend farther than the barrier or get out of the shale dust zone.

Coal dust did not have an opportunity to enter into this explosion since the explosion origin was in a shale dust zone. The mine floor in this location was wet and, owing to the season, the mine was fairly damp but the mine was not considered sufficiently wet to prevent the coal dust from entering into the explosion, and shale dust is accredited with having prevented its propagation.

### **Dramatic Evidence of Shale Dust Effectiveness**

The sixth explosion occurred at Mine No. 18 on October 19, 1921. This mine is located in Williamson county just across the south boundary line of Franklin county. It was an idle day. Twenty-nine workmen and eight bosses were in the mine.

The explosion was caused by the firing of one or both charges of



—New York Daily News

### Waiting to Claim the Bodies of Killed Coal Miners

Scene at the mine entrance at Shanktown, Pennsylvania, where on January 26 a coal mine explosion killed 36 miners—the human toll of “still another mine disaster.”









### Science Disperses Mystery of Coal Dust Explosions

Picture shows a coal dust explosion at the Government's experimental mine near Pittsburgh. Smoke can be seen coming from mine in the rear. Explosion gallery in the foreground. Through such tests, here and elsewhere, the nature of coal dust explosions has been determined and a simple method of preventing them discovered and proved effective. How an Illinois coal company has, by installing shale dust, eliminated mine disasters due to coal dust explosions, is described on pages 35 to 51 of this REVIEW.



### Device for Spreading Rock Dust

Exhibition of portable blower by means of which shale dust can be quickly spread through coal mines.

four and two sticks of dynamite each. These two charges of explosives were placed at the face of a room on top of a bottom bench of coal that was three feet thick, the purpose of the charges being to loosen this coal for the loaders. The placing of these charges on the top of the coal bench was contrary to any practice of shooting or blasting in the field. The two charges were about six feet apart and were covered with loose coal and coal dust. Due to the usual hurry to get out at quitting time the shots were fired about thirty minutes prior to that time since this was an idle day.

A terrific coal dust explosion resulted, gaining in violence until coming in contact with the shale dust zone at the panel entrance, a distance of 700 feet from the explosion origin. The person lighting the shots was fatally burned. Three other men were in the panel in another room at the time of the explosion but these men were only slightly affected since there was no reaction to the explosion. Three wooden stoppings, one door and part of a concrete overcast were blown out. The flame was extinguished at the first shale dust zone encountered but the force continued, gradually diminishing, for 2,000 feet or more to the shaft bottom where the intense heat and suffocating effect of the smoke, coal dust and shale dust was felt. A great cloud of black smoke first came to the surface at the main shaft immediately followed by a gray cloud of dust.

This demonstration of the value of shale dust was more pronounced perhaps than any of the foregoing since the explosion had a start of 700 feet before striking the shale dust zone and coal dust had entered into the explosion to such an extent that thick patches of coke as great as eighteen inches in diameter were lodged in the recesses of the ribs. The only coke found outby or beyond the shale dust zone was microscopic particles carried by the force of the explosion. The panel where this explosion originated was first on air, making it quite damp and relatively safer, from a moisture standpoint, than workings farther in on the ventilating current.

The seventh explosion occurred in Mine No. 9, September 5, 1923. On this day the mine was operating and 562 men were underground. A tracklayer needed a board for blocking, so he went into a "fenced off" abandoned territory with his naked light to get it. All abandoned territories are fenced off to warn persons to keep out. This territory generated gas and this information "Gas XXX" was given on a board at the fencing. The man was fatally burned. The territory for a radius of 100 feet was a shale dust zone and the explosion did not get out of the zone.

These seven experiences have developed considerable faith among the men and management in the use of shale dust to stop the flame of an explosion. The skepticism and sarcasm which existed at the beginning of the installation has entirely disappeared, and instead a word of praise is occasionally heard and co-operation is given by the men in keeping the equipment unmolested.

The value of shale dust in fighting mine fires will not be discussed in this paper except to state that the availability of large quantities of shale dust equally distributed at short distances throughout the entire mine provides fire protection that is not dependent upon mechanical devices and one that is difficult to equal or surpass.

### **Coal Dust Explosions Can Be Eliminated**

As we have seen, the three principal factors required to produce a coal dust explosion are an open light, an accumulation of gas and explosive coal dust. The first factor is removable by the installation of enclosed lights found permissible by the Bureau of Mines. The second can be minimized by proper ventilation and inspection but this hazard will always exist in a gaseous mine. The third can be eliminated by neutralizing the coal dust with incombustible dust, making a mixture that is non-explosive.

Explosions are charged with the greatest number of fatalities in Franklin county, therefore our greatest effort is exerted to reduce this hazard. Explosion accidents have been reduced greatly during the last quarter of the eighteen-year period. Of the 12,855 men working underground, 1,925 are protected with enclosed lights and 4,350 are protected with shale dust.

The outlook for increased safety against explosions is brighter than ever in the history of the county or the state, as is evidenced by a more thorough understanding of the hazard and the growing interest in the reduction of this hazard by both the employer and employee.

The marked advance in methods and practice that have been made during the past few years in the prevention of explosions in the mines operated by Old Ben Coal Corporation, while a matter of gratification, is but a hopeful indication that still further progress can and must be made and that the time is not far away, perhaps, when mine explosions will be robbed of the disastrous results that now usually accompany them, and their frequency and fatality reduced to the minimum.



# What the Federal Government is Doing Toward Combating Mine Accidents

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H. FOSTER BAIN

*Director, United States Bureau of Mines*

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(EDITOR'S NOTE: Director Bain presided over the special session on coal mine accidents at the seventeenth annual meeting of the Association for Labor Legislation, December 28, 1923, where he reaffirmed his conclusion that "coal dust explosions can and must be prevented.")

THE Bureau of Mines was established by Congress as a result of insistent demand from the western states that the federal government should extend the same help to the mining industry that it did to agriculture. The earlier current of thought ran toward increasing efficiency in production and better conservation of the wasting natural wealth of the country. Later, a great series of explosions in the coal mines of the eastern states aroused the whole country to the need of active work directed toward safety in mining and the mineral industries. The work began as a branch of the Geological Survey but was set off by itself in 1910.

From the first **one of the major activities of the bureau has been the study of the causes of mine accidents and the means of their prevention.** It was found that while the loss of life per ton of coal produced is less in the United States than abroad, the loss per 1,000 employees is several times greater.

Approximately half the deaths are due to falls of roof and rock and here individual carefulness is the best and nearly the only means of prevention. Campaigns of education are therefore the most available means of work in this field and the extensive program of instruction in first aid work conducted by the bureau is not only for the good the training does directly but to teach the men to think about safety. Up to now just under 100,000 men have taken the bureau course and received certificates. The regular training is supplemented by contests and field manoeuvres held in cooperation with the Red Cross, the Mine Operator's Association, the United Mine Workers and other agencies. Even in periods of great national strikes this work goes ahead and the various factors in the coal industry are able to get together in promoting safety.

Explosions and fires in mines, while killing fewer men than rock falls, kill many at a time and so attract more attention. Then, too, these "major disasters" are the accidents which there

is most hope of preventing through extension of scientific knowledge and its wider application. For this reason a large amount of the attention of the bureau engineers has been centered upon them.

The work of experimentation was at first carried on at an old arsenal at Pittsburgh generously placed at the service of the Department of Interior for this purpose, by the War Department. Later a big research station was erected adjacent to Carnegie Institute of Technology, and at Bruceton, about eighteen miles away, an experimental coal mine and explosives testing station was developed.

The results reached in the laboratory are all tried on a working scale in this mine before they are given to the public. From time to time public demonstrations are given of new methods, and mining men from all over the country are frequent visitors.

Among the scientific discoveries that have been demonstrated here so conclusively that they are no longer doubted is the fact that coal dust as well as gas is explosive and dangerous. A prominent member of the United Mine Workers said recently that this alone was worth all that the bureau had ever cost.

In this as in many other things it proves useful to give convincing demonstrations even of facts already known to scientific men. The larger knowledge of gas and dust dangers now common in the industry as a result of work done at Pittsburgh has already saved many lives and as preventive measures are more and more widely adopted will undoubtedly lead to greater limitation of loss from mine disasters.

One of the effective means found for accident prevention has been the permissible powders developed by the manufacturers in co-operation with the bureau. These are short-flame, low-temperature powders which may be safely used in specified quantities even in gaseous mines. There is now a system whereby a manufacturer putting out such a powder can have it tested for a small fee at Pittsburgh and so long as the powder is kept up to the established grade it can be advertised as "permissible." In certain of the states the state inspectors will not allow non-permissible powders to be used in gaseous mines. That is an authority which rests with them and not with the bureau, which can only make the tests and furnish the information on which a state officer may act. The advantages of permissible as compared with non-permissible powders are, however, so large that they are now widely used.

A similar system has been established with regard to design of machinery for use in gaseous mines, especially that which is electric driven. American mines use electricity freely, and must do so if output is to be kept up and costs kept down. It is safe to use electricity if it be employed only in permissible apparatus but the development of such safe devices and machines is slow and expensive. In this the bureau works with the manufacturer, setting the standards and testing the various machines offered. Already an encouraging list has been developed though much remains to be done and the routine testing has grown so that field investigators have had to be called in to supplement the laboratory staff. This is unfortunate since actual field study of the cause of each major explosion is an important part of the bureau work and in these studies electrical experts as well as mining experts should be available.

Space remains only to mention the mine rescue instruction and disaster work which is carried on through a special corps of picked men from ten safety stations and ten mine rescue cars. Their major work is instruction so that at every mine there shall always be a sufficient number of men trained in the newer methods to handle a disaster. It is impossible for the federal government to furnish enough men, cars, and apparatus to protect all the mines as a city fire department protects a town. This the industry must do for itself. The federal men, however, respond to every call and do what they can to assist, constituting thus a sort of reserve. Their major usefulness is in training bosses and men and in development and introduction of newer methods and apparatus. This has been so well done that at the recent Shanktown disaster in Pennsylvania over ninety apparatus-trained men were assembled within a few hours. Of these the bureau directly furnished only twelve, which was a larger portion than usual. In almost every mine now there are at least a few men who have taken training and are prepared to respond to a disaster call.

Despite these and similar encouraging facts that might be cited, those who are most familiar with the work are impressed more with the large amount that remains to be done than what has as yet been accomplished. Despite the cooperation of state and federal forces, of companies and men, the sad fact remains that too many men are annually killed and disabled in American mines.

# Importance of Uniformity in Mine Safety Legislation

BY E. A. HOLBROOK

*Dean School of Mines, Pennsylvania State College*

THE two great direct positive factors for coal mine safety<sup>1</sup> in this country to-day are the mining laws, codes or regulations of the individual states, and the workman's compensation insurance laws of the individual states as applied to coal mining.

Until 1869, there were no special safety laws or codes governing coal mining in any state. In that year laws governing coal mine operation and safety were passed for the anthracite district of Pennsylvania. In 1874 Ohio passed the first state acts providing for state inspection and regulations of bituminous coal mines. Next, in 1877, Pennsylvania enacted laws governing bituminous coal mine operations and providing for state inspection. Since that time codes have been put into effect in all of the twenty-nine states in which coal is mined.

The Pennsylvania and Ohio codes were based on the coal mine safety laws of Great Britain providing for government regulation and inspection of mines, passed in 1850 and in 1872 absorbed into a general coal mining act for all of Great Britain. The individual state codes of this country still vary widely in content and completeness as well as in the method of enforcement. For example, the Pennsylvania bituminous law or code contains about 43,000 words. It has been the basis of most of the other state laws, some of which, however, contain fewer than one-tenth of the provisions covered in the Pennsylvania law. Thus safety in the coal industry in this country is governed by at least twenty-nine codes, differing widely not only in details but in basic features.

Coal mining has been recognized as an industry apart and peculiar in its working conditions and hazards.

I believe that the people in the coal industry—operators, officials and miners—are about like the rest of the human race in the matter of safety. Some companies use every effort to safeguard their men, some leave safety to chance and the individual, with all grades between. Some miners are in every way safety examples to their

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<sup>1</sup> This paper deals with bituminous coal mining rather than with anthracite, since only one state, Pennsylvania, has use for anthracite mining regulations.



fellows, some are ignorant and careless, with all grades between. All believe thoroughly that they are doing the best thing possible in regard to safety. Too often the economic requirement makes both miners and operators satisfied if the minimum requirements of an incomplete state code are complied with to the satisfaction of the periodic state inspection.

### **Safety Laws Lag Behind Scientific Knowledge**

The essential object sought in all the state mining codes is the safety and health of the miner, with minor emphasis on protection of property. The special state mining codes with their attendant state inspection have usually been put into effect after struggles in the legislatures, the great majority of whose members had no knowledge of mining. Oftentimes they have been unwisely amended to suit some particular faction in the legislature.

Some laws have not been changed or altered for years, in spite of the fact that the introduction of electricity underground during the past ten years has revolutionized the methods of the industry. In addition, investigations on the part of governmental and local agencies in certain states have proven advanced methods more safe and reasonable than those required under the existing laws.

Persons not connected with the coal mining industry do not realize the value and influence of competent state mining department inspectors working under efficient laws, in maintaining safe conditions underground. The state inspector is in fact an underground sheriff often with added powers of judge and jury. Yet under our varied state laws Pennsylvania pays her bituminous state inspectors \$4,800 per year and secures and holds in office by technical examinations, practical competent men, while in a nearby state where mining conditions are practically the same, the state inspectors are paid \$1,800 per year, are removable at discretion of their superior, are required to pass no examination for competency, and are held responsible for a larger number of mines than the Pennsylvania inspectors. In another state the coal mine inspectors are elected on a party ticket, in others they function in a department, the responsible head of which has no knowledge of mining. As an illustration of difference in number of mines inspected, the average state inspector of Washington has in his district a tonnage output

of 810,000 tons per year while in Illinois the tonnage per district inspector is 5,800,000 per year. The other states range somewhere between these figures in thoroughness of state inspection.

### **Drastic Revision of State Laws Needed**

It is difficult to express differences among the provisions of the laws without becoming technical. Briefly, the bituminous code of Pennsylvania contains the most complete sections covering the installation and use of electricity underground, yet this has not been brought up to date for several years during which time new electrical hazards have been introduced. Some other states have underground electrical codes that are ten years or more old while others practically ignore the presence of electricity underground.

In many districts a miner is migratory, moving freely across state boundaries. Why should there be one danger sign in one state and an entirely different one in another? Why should there be different hoisting and lowering shaft signals in neighboring states? Why is the miner forced to be careful in handling and using explosives in one state and under no restriction in another? Why must he use a safety lamp in one state when in a neighboring state in mines equally dangerous, open lamps and matches are not prohibited?

A legal manner of drilling, shooting and loading the coal in one state is illegal in another.

From the standpoint of the company why must it be compelled to have fireproof shafts and buildings and other safety features, the capital cost of which may be five or ten cents per ton of output when in a neighboring state serving a competitive market no such provisions are in effect? Why require the operators in one state to go to large expense to adequately ventilate their mines when their competitors in another state get by with a minimum of attention to ventilation?

The local man often answers, "Well, you see our local conditions are different, you do not understand them."

After going underground in the coal mines of nearly every coal state, I make the statement that the basic conditions are alike in our coal mines, and vary no more among states than do

the mines of an individual state like Pennsylvania which finds its right to have one code for all her bituminous mines.

The federal Bureau of Mines, through the employment of practical men who have concentrated on coal mine safety problems, has recommended standard and accurate methods of determining when a mine should be considered gassy, how the coal dust hazard should be handled, what kind of mechanical and electrical equipment to allow in mines, and many other safety provisions. The individual states have been strangely slow in approving and adopting this work, or even in inspecting the results of the work.

**Certainly from the standpoint of modern safety knowledge, drastic revision of the mining laws and regulations of most of our coal mining states is needed.** It is often charged that miners will block one amendment and operators another until a deadlock exists which prohibits altering a state mining law. Certainly there exists in this country sufficient competent independent men to act as arbitrators of such a condition.

### **Accident Insurance Laws Promote Safety**

At the beginning of this paper it was mentioned that the second great influence for good in mine safety has been the coming of workmen compensation accident laws, with their attendant insurance and safety inspection. Their application to coal mining generally within the last seven years is too recent to permit final opinion on costs, benefits and comparison of methods among the different states. Usually the states give the mine operator the privilege of election to come under the compensation law. The injured employees are compensated for accidents where disability lasts for more than three days in one state and the others have a longer waiting period, in one state up to fourteen days. In some states the compensation provisions are retroactive to the date of injury and in others they are not. In some states the mine operator is permitted to carry his own compensation insurance if the commission is convinced of his ability to meet all compensation payments.

In some states there is a regular schedule of charges worked out and applied for the increase of coal mine compensation insurance rates in accordance with safety precautions neglected at the mine (Schedule Rating). Thus the insurance carriers have their minimum codes of safety which are different from the state codes, and generally more severe.

In other states a good past experience in low injury rates brings a reduction in insurance costs (Experience Rating).

Some states have both merit and experience ratings.

Proper compensation insurance rating offers a great economic inducement to the operator to reduce underground hazards. It does not, however, offer equal inducement to the miner. It encourages a standard of safety above the minimum required by state mining laws, but lacks the police power of the state laws to both miner and operator. It supplements the mining laws rather than replacing them.

Most states have competitive insurance of the following kinds: (a) Self Insurance, (b) Reciprocal (Participating), (c) Mutual (Participating), (d) State Compensation Insurance Funds, (e) Stock Company; and Ohio and West Virginia and six others have exclusive state insurance.

One can easily understand what a difference of cost and in safety conditions must arise in competitive states under mine compensation insurance with such varied conditions.

### **A Safety Code Needed to Aid the States**

With the diversity of laws and practices directly affecting mine safety in the different states, there is no doubt that conditions could be bettered by following the example of Great Britain, where coal mine safety laws and codes are administered by a central department of mines with large and increasing authority, duties and independence. Besides the inspectors chosen through competitive examination, there are assistants and specialists in inspection of special apparatus and conditions.

I am not convinced, however, that such a course is constitutionally practicable in the United States. I still have faith in the individual state provided that it has full knowledge of better practices and conditions elsewhere.

Again, a body of mine safety laws which has been evolved and learned through many years cannot be lightly discarded without introducing new dangers from the fallible human element, and may in addition result in prohibitive costs to mines opened and developed under the older code.

It is possible for a central body, composed of representatives of the varied interests directly interested in mine safety in the



United States to get together and agree on a **fundamental code covering bituminous coal mine safety and operations in the United States which should represent a minimum standard of safety everywhere**, and to suggest in addition operating regulations which could be altered or changed to suit the varying local conditions without the need, as at present, of changing the state law through legislative action.

In addition to preparing and recommending detailed minimum safety regulations this body should also outline more uniform methods of state mine inspection, and recommend for general adoption the best type of mine compensation insurance and standards now in practice.

The individual states all would not adopt such minimum regulations. However, it is certain that no change in individual state codes would be made without consulting the proposed standards, and new mines being opened would try to meet these standards, as anticipating the time when they might become state laws.

### **Agree on Fundamentals of Mine Safety**

Safety must be the sole viewpoint of such a basic code; introduction of other considerations would lead to disagreement and defeat the purpose of the work.

Already, acting through the American Engineering Standards Committee, such national bodies as the Bureau of Mines, the American Mining Congress, the American Institute of Mining and Metallurgical Engineers, the Mine Inspectors Institute of America, the Coal Mining Institute of America, the Power Club, the Associated Insurance Companies of Hartford, Connecticut, and the National Safety Council, have signified their willingness to help in preparing such a standard coal mining code. Before the work can fully succeed, we need the active support of the Association for Labor Legislation.

In conclusion, I wish to mention my pleasure, last summer, while working with the Coal Commission on coal mine safety, to find that the miners, the operators and other interests in the industry working with our committee, agreed closely on the fundamentals of mine safety, when other and controversial subjects were excluded and human safety underground made the sole viewpoint.



## How a Fatal Disaster Happened

### Electric Spark from Defective Mining Machine Ignites Gas Coal Dust Spreads Explosion

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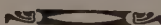
“WE are unanimous in the opinion that the explosion was caused by the arcing of the mining machine in an atmosphere that was charged with [coal] dust and explosive gas.”

This is the conclusion of the official commission of inspectors following careful investigation of the explosion in a coal mine at Shanktown, Pennsylvania, January 26, which killed 36 miners.

The report, which was made to the state Secretary of Mines, Joseph J. Walsh, declared that on several occasions explosive gas had been reported in live workings, and the inspectors “found some accumulation of explosive gas in all working entries.” This, and the presence of coal dust, made a disaster almost inevitable when a **defective mining machine** flashed a live spark into the air. Says the report.

We also found a closed type mining machine at the face of the airway of No. 1 butt room entry off 8 right flat, and also an accumulation of explosive gas at these faces. In this airway we found evidence of intense heat and much force developed outward, and this, connected with other evidence obtained, indicated that **this had been the initial point of the explosion.** The mining machine at the face of this airway had just completed the undercutting of the coal and the machine was being replaced on the truck to be moved to some other place when the explosion occurred. **By carefully examining this machine we found evidence to cause us to suspect that defects in the electrical parts had caused the explosion.** By dismantling certain electrical parts of the machine we found that an arc had occurred in the rheostat which caused intense heat and burned out the gasket between the frame of the machine and the plate covering of the rheostat for a distance of about six inches which would **allow the flame to pass upward into the atmosphere.** In connection with this arcing in the rheostat, the whole machine would become charged and arcing would possibly be produced at any or all grounding points. **On account of this place generating a certain amount of explosive gas and the fact that the machine had just completed undercutting the coal, setting up a certain amount of coal dust, the atmosphere of the place would be in prime condition for the flame from the machine to propagate an explosion.**

“For the future safety of the lives of employees and the protection of the property,” the inspectors recommend that a number of precautions be taken, including exclusive use of approved safety lamps; use only of mining machines of the improved closed type approved by the federal Bureau of Mines; restricted use of open type motors, and full compliance with the mine safety law regulating electrical connections—“switches, circuit breakers, or fuses shall not be of the open type, but must be enclosed in explosion-proof casings or break under oil **as required in paragraph 65, section 4 of article 11 of the mining law.**”



# Federal Safety Council for Coal Mines Urged by Miners

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BY VAN A. BITTNER

*International Representative, United Mine Workers of America*

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**A**CCIDENTS in the coal mines of the United States can be greatly reduced and some of the major catastrophes entirely eliminated if the proper safeguards are applied.

A most advanced stand relative to the introduction of safety methods in the coal mining industry has always been taken by the United Mine Workers of America. In every coal producing state in the country we have been fought at every turn by the selfish interests, who are the coal operators and their allies in the manufacturing industries. The interests, generally speaking, have always fought against adequate safeguards. For one thing, they have always carried on to the fullest extent the practice of employing thousands of immigrants who never saw a coal mine. These interests have always been in favor of no interference with the constant stream of immigration.

Accidents in the coal mines of the United States, are appallingly frequent and disastrous as compared with other countries. Needless injury and death are the toll we pay for our enormous (when compared with other countries) production per day per man.

We should have a federal department of mines with a secretary in the President's cabinet. It would be the duty of this department to safeguard the lives of the men working in the mines and conserve the fuel resources of our country for the coming generations.

All coal miners should have certificates of competency which qualify them as practical workmen in the coal industry. All electrical equipment, with the possible exception of storage battery and electrical machinery, should be removed from coal mines. Permissible explosives to blast coal should be used when other dangers are removed.

Our government has not given for mine safety work since its establishment one-tenth the amount of money that was spent on the battleships scrapped at the Arms Conference.

Until we have a department of mines the mining laws in the various states should be made as nearly uniform as natural con-

ditions will permit, and the present federal bureau must have its authority to function for better safeguards extended by Congress.

Connected with the proposed department of mines we should have a federal safety council, on which the miners, coal operators and department of mines will be represented. This to be divided into state organizations and subdivided into local units with jurisdiction over each mine. The duties of this organization would be the study of practical safeguards for mining, with authority to compel installation of safeguards in the mines.

“OUR Bureau of Mines ought to be equipped and empowered to render even more effectual service than it renders now in improving the conditions of mine labor and making the mines more economically productive as well as more safe. This is an all-important part of the work of conservation; and the conservation of human life and energy lies even nearer to our interest than the preservation from waste of our material resources.”—WOODROW WILSON, in a presidential address at Joint Session of Houses of Congress, December 3, 1913.



# Suggestions for Coal Mine Safety in the Anthracite Field

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BY THOMAS KENNEDY

*President, District 7, United Mine Workers of America*

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**T**HE toll of death and accident in the anthracite industry is appalling and were it reduced 50 per cent would still remain very high. Seventy per cent of fatal and non-fatal accidents are due to falls of rock and roof, to moving cars and to explosions. My discussion shall, therefore, bear upon these subjects.

## Accidents Due to "Falls"

It is estimated that men working at the face are working in an exposed area of 375 acres. Forty-eight per cent of the accidents are due to falls in this exposed area. Proper timbering and placing of props, and otherwise making the place secure, are necessary to prevent accidents by falls.

It is well to point out here that many companies do not compensate the miners for any extra precautionary work which might be necessary to properly secure the place; while other companies who do compensate for the standing of timber and props are continually haggling over the number of timber or props a man stands. In many places where payment is made for such work, the foreman or assistant foreman indicates when and where the props or timber should be stood. This is an impractical method.

While the supervising forces should at all times look after the safety of working places, they should not take away from the miner his natural judgment with regard to safety.

The cost of production should not be permitted to influence and dwarf the judgment of officials. The miner should be encouraged rather than hindered in the securing of the working place by being able to obtain proper timber when and wherever necessary. Extra payment should be made for the work performed by the miner in making the place secure and safe. If the companies paid the miners for all props, timber and other work necessary to make their working place reasonably free from danger, they would pay less in compensation for the injured, or for death to dependent widows and orphans. The average man at the face works on contract and therefore should receive extra consideration for safety work done in the working place.

In addition to proper placing of timber and props, the ventilation of the working face has a great deal to do with accidents. In many mines the ventilation is such that very little air is sent across the working place, with the result that men in order to make a shift are compelled to work at top speed, because their physical energy in this vitiated atmosphere becomes reduced to helplessness, and naturally under this condition they are forced to perform their shift as quickly as it can be done. Working under this high tension, it is but natural that accidents will result, due to no fault of the miner but due absolutely to the neglect of the mine operator in not providing enough air at the face to dilute, render harmless, and sweep away explosive and noxious gases as provided for in the Anthracite Mine Laws.

In my opinion important factors that would tend to decrease the fatal and non-fatal accidents due to falls in the faces of the working places include the proper ventilation of the faces; the placing of timber, props and other necessary supplies, with extra compensation to the miner for such safety work; the taking into consideration of the judgment of the miner, and the strict enforcement of the Miner's Certificate Law so that none but competent men shall work at the face.

### **Accidents Due to Moving Cars**

The condition of the mine itself together with the speed under which motors and engines are operated has much to do with accidents resulting from moving cars.

All gangways and main haulage ways should be driven large enough so as to give at least two feet clearance above the top and sides of the car to permit of sufficient room and proper drainage. Then, if derailments happen, men in the gangway and on cars would have some chance of escaping injury. Conditions of some gangways and haulage ways are such that cars rub the collars, legs and props as they are being hauled through the gangway. Many corporations instead of retimbering at the proper gangway size, stand center props and shorten the timber with the result that, instead of gangways, they have small narrow haulage ways, which are a menace and are contributing factors to accidents and deaths caused by cars.

Speed of mine motors and locomotives should also be regulated so that if something does occur the momentum as a result of high speed will not knock down several sets of mine timber before coming to a stop. Speed of locomotives and machinery outside which

handle cars should likewise be regulated and controlled with regard to safety. It is also important from the standpoint of safety that road beds be laid and maintained on a solid foundation with proper ballast, together with rails of sufficient weight and the proper cars of rolling stock.

### **Accidents Due to Explosions**

Fatal and non-fatal accidents due to explosions of gas are becoming more pronounced, and under present ventilating conditions will become more so, in my opinion, as the mines become deeper and more extensive.

When a gas explosion occurs, coal operators, mine inspectors and others have been in the habit of putting the blame for the explosion on the dead employees. They usually concern themselves about the question, "Who ignited the gas?" The usual coroner's verdict and mine inspector's report is to the effect, "That John Brown, John Smith, etc., came to their death as a result of igniting gas."

In all my experience in the anthracite industry, I have never heard of an operator or mine inspector, outside of one or two, who ever fastened the responsibility upon the parties responsible, namely the coal operators.

**If the coal operators in the anthracite region lived up to the mine law with respect to ventilation<sup>1</sup> it would be impossible for a gas explosion to occur.**

If this law were carried out no gas could accumulate, and if no gas could accumulate, no gas explosions would occur. Instead of finding out who ignited the gas, an effort should be made to find out why the gas was permitted to accumulate in violation of the laws. The cause of gas explosions is insufficient ventilation, and when this is corrected the danger is removed. There is no valid excuse for gas explosions and coal operators have been so notified.

It might be pointed out that gas will accumulate despite any precaution. In sections of the mine thus affected where explosive gases are generated, safety lamps should be used pursuant to laws. Furthermore, the duty of freeing the section from gas should not be shifted from the operator to the miner, but should remain with the operator where it has been placed by law.

General Rules of the Act of June 1, 1916, provides—

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<sup>1</sup> Article 10 of the Anthracite Mine Laws provides: "Section 4. The ventilating currents shall be conducted and circulated to and along the face of each and every working place throughout the entire mine, in sufficient quantities to dilute, render harmless and sweep away smoke and noxious gases, to such an extent that all working places and traveling roads shall be in a safe and fit state to work and travel therein."

*Rule 7.* "A station or stations shall be established at the entrance to each mine or different parts of each mine, as the case may require, and a workman shall not pass beyond any such station until the mine or part of the mine beyond the same has been inspected and reported to be safe. It shall be the duty of the fire boss to remain at the danger station until relieved by some person authorized by himself or the mine foreman, who shall stand guard until said mine or part of mines shall be reported safe, and he shall not let any person pass without permission from the fire boss."

If this rule were carried out it would be impossible for any workmen to walk into gas to be suffocated if he had an electric light, or to ignite the gas if he had a naked lamp. It is evident that the strict observance of these mine laws by the operator would reduce the toll of death and accident from explosions to a minimum.

It is interesting to note that within the past few years the installation of electricity in mines generating explosive gas has caused more deaths and injuries from explosions in the gangways than has the ignition of gas in the face. I have known of mines where an electric motor was in operation, the trolley causing sparks at the roof while the motorman and patcher were using safety lamps in the operation of the machine. Sparks from the trolley wire have been known to set off gas in these gangways resulting in fatal accidents. Likewise the installation of electric fans in gaseous sections has caused explosions of gas; one such explosion resulting in the death of eight men in the gangway.

The use of electricity in gaseous mines is a menace to life and property. No electric wire should be permitted in any section of a mine where explosive gas is being generated, or likely to accumulate. This would prevent the use of electricity in any return airway where "used" air is drawn out of the mine.

Many collieries in the anthracite field have abandoned the use of steam entirely. The engines which hoist and lower men and drive the ventilating fans are run with electric power. The electric power is made sometimes at a distance of more than thirty miles from the colliery. No auxiliary steam fans or engines are available at the collieries, with the result that if anything happened to the electric power the mine would be cut off from ventilation and at the same time the engines used in hoisting and lowering men would likewise become impotent. If the ventilating current stopped, the first thought of the men would be to get out of the mines and upon reaching the bottom they would find that the same power which stopped the ventilating apparatus likewise stopped the hoisting apparatus. In such an event hundreds of lives might be lost as a result of modern electrification of coal mines.

At some collieries lightning has caused the sudden stoppage of



the electric ventilating apparatus and the men inside were not aware of the fact until they discovered that the air was not circulating. No attendant was in charge of this fan.

I hold, therefore, that it is absolutely necessary, at every colliery where electricity is used to operate engines, compressors and ventilating fans, to have auxiliary duplicate steam operated engines, compressors and fans in readiness to take up the work of the hoisting or ventilating of the mine in the event of an accident to the electrical apparatus. Likewise, attendants should be in charge of every fan while they are in operation, so that if something does occur to stop the fan, the auxiliary plant could be started and other precautions taken to assure the safety of the men. A check upon continuity of operation of steam and electric fans shows that there were ten times more sudden stops of electric fans than steam fans. This investigation showed that electric fans stop suddenly at least once every month, while twenty-five steam fans were found to have stopped suddenly only twice in a year. Before a steam fan goes wrong it usually gives some warning. An electric fan generally stops without warning.

Electricity is too uncertain and complicated to be depended upon entirely for ventilation and hoisting service, and auxiliary steam plants are imperative.

### **Accidents Can Be Reduced**

Mine foremen and assistant mine foremen in the anthracite region are more or less tied up in the making of reports and in getting out production at the lowest possible cost so that it is impossible for them to give their time to the safety of the mine or the men employed therein. A number of companies have practical mine foremen but impractical and theoretical superintendents with jurisdiction over the practical foreman. A practical mine foreman knows better how to ventilate his mine and provide for safety than an impractical theoretical superintendent.

The anthracite industry is hazardous and will be hazardous at its best. Fatal and non-fatal accidents can and should be reduced. This can be done through the application of new laws covering hazards I have here outlined, together with the enforcement of existing laws, plus the co-operation of the miners, operators, mine inspectors, and the department of mines.

The United Mine Workers of America will in the future, as in the past, continue to co-operate and give the best that is in them to the end that death and accident will be reduced to the lowest possible minimum.

# Increasing Toll of Coal Mine Accidents

BY ROYAL MEEKER

*Secretary, Pennsylvania Department of Labor and Industry*

IT is discouraging as well as alarming to consider the accident record in our industries, including coal mining, during the past year. The industries of Pennsylvania, as of other states, show a marked increase in the number of accidents beginning in 1922 and running up to the present time. It makes one wonder if all the time and money that have been devoted to the Safety Movement in our country have been spent in vain.

Pennsylvania has never been able to compile accident rates because the industries do not furnish the man-hours worked in industry, so that rates may be computed. A comparison of the fatal and non-fatal mine accidents reported for each quarter during the past few years does give us, however, some very useful though disturbing information.

	1920.		1921.		1922.		1923.	
	Fatal.	Total.	Fatal.	Total.	Fatal.	Total.	Fatal.	Total.
1st Quarter.....	259	11,830	225	12,825	267	13,636	278	15,384
2nd Quarter.....	247	11,366	230	12,475	104	4,920	269	15,858
3rd Quarter.....	282	11,924	210	12,545	110	4,450	265	14,541
4th Quarter.....	231	12,658	239	12,911	328	13,607	205	14,099
Total.....	1,019	47,787	904	50,756	809	36,613	1,017	59,882

For 1923 there were reported 1,017 fatalities in the mines of Pennsylvania as against 1,019 for 1920. The total number of accidents for 1920 was 47,787 as against 59,882 for 1923. We know that there were more miners employed more hours in the mines of Pennsylvania in 1920 than were employed in 1923. The figures then indicate that both the fatality rate and the all accident rate in the coal mines of Pennsylvania have increased in spite of all attempts to reduce accidents.

The effect of the anthracite strike is shown in the slight decline in fatalities and in all accidents for the third quarter.

The neglect of proper attention to the safety of miners is shown by comparing the mine accidents with the accidents in all other industries. In 1920 there were 1,019 fatalities in mines as against

929 in all other industries in Pennsylvania. In 1923 1,017 men were killed in and about mines as over against 1,395 in all other industries in the state.

When it is remembered that there are several times as many workers employed in industries as are employed in and about the mines, the danger connected with mining becomes more clear.

Still another comparison serves to bring out the deadly character of the mining industry in the United States. While the statistics of coal mining accidents in the United Kingdom and the United States are not strictly comparable, still it is possible to make comparisons which show that a much higher accident occurrence and accident rate exists in the United States.

An article on coal mine fatalities in these two countries which I published in the *International Labour Review* for January, 1922, compares coal mining accidents in the two countries for the period of 1913 to 1920, inclusive. The fatality rate in the United States per thousand workers in 1913 was 3.73 and in the United Kingdom for the same year was 1.55; for 1920 the rates were 2.92 and .88 respectively. These fatality rates would seem to indicate that there was some improvement in the United States from 1913 to 1920, but by no means as great an improvement as in the United Kingdom. Furthermore, the statistics indicate that the mining industry in the United States kills miners about three and one-third times as fast as the same industry does in the United Kingdom.

Education and organization, as these figures indicate, can enormously decrease the fatality rates and the non-fatality rates in the coal mining industry in the United States.



# Possibilities of Establishing a National Minimum of Safety in the Coal Industry

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BY FREDERIC P. LEE

*United States Senate Legislative Drafting Service*

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"Whoever hath an absolute authority to interpret any written law, it is he who is truly the lawgiver to all intents and purposes, and not the person who first wrote or spoke them."

## I.

THE federal constitution has nothing to say about safety conditions in mines, no more than it has about minimum wages or child labor. It is for the most part written in general terms. Interpretation of the constitution by the United States Supreme Court to determine whether the federal government may establish national standards of safety conditions in the mines is not a literary task of determining the meaning of language; it is a practical matter of weighing competing considerations of common sense—of expediency for the nation.

It is a common sense determination—though it may not be your common sense or mine that is adopted.

Mr. Justice Sutherland's common sense is not that of Mr. Justice Holmes if minimum wages are concerned. But the written opinions of Mr. Justice Sutherland and Mr. Justice Holmes—the arguments therein—do not necessarily contain their common sense in the matter. Rather they contain the rhetoric or logic, used to market their convictions—convictions based on inarticulate premises derived from varying philosophies and experiences. Except in those cases where the constitutional provision is so clear and specific as to override the conviction, it remains undisclosed save as demonstrated by the decision reached. The logic, however, is always openly demonstrated in the written opinion rendered.

In determining the possibility of constitutionally enacting national minimum standards of safety in mines, a guess as to the convictions of the court upon the subject may be made from a knowledge of its decisions upon analogous subjects. A guess as



to the logic to be used in marketing its convictions may be made from a knowledge of the court's written opinions upon analogous subjects. A constitutional statute must not only avoid opposing judicial logic but also opposing judicial convictions. To accord with the canons of judicial logic is not necessarily sufficient; but having made his guesses as to the court's convictions, as well as its logic, any lawyer with constructive imagination and a knowledge of statutory and administrative expedients can suggest the various paths of constitutional approach that either will keep clear of opposing judicial convictions, or will in a few cases, by reason of the exactness of the constitutional language relied on, leave no room for a logic that supports the real convictions of the court.

I take it that a summary of these pathways of constitutional law is what is wanted in a discussion of the possibilities of national standards of safety in the coal mines. The "possibilities" in mind are the **legal** possibilities. Convictions may vary as to the economic and political desirability of such standards, but it is of interest to all to learn the chances of judicial, not of legislative, approval of national standards for safety conditions in coal mines.

## II.

It is obvious from the readiness with which the United States Supreme Court has sustained state regulation under the police power of safety conditions in coal mines, that the court has never had any conviction that it is against the public interest to have governmental regulation of such conditions.<sup>1</sup> In other words, legislative establishment of safety conditions in mines is not placed by the court in the same category as legislative establishment of minimum wages. It follows then that the principal question to be considered is—**To what extent does the court possess the conviction that regulation of safety conditions in mines is a subject for state rather than federal legislation?**

## III.

There are certain economic distinctions between the situation in the bituminous and anthracite coal industries that are pertinent to our discussion. Bituminous coal is mined in about 30 states.

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<sup>1</sup>*Holden v. Hardy*, 169 U. S. 366; *Barrett v. Indiana*, 229 U. S. 26; *Plymouth Coal Co. v. Pennsylvania*, 232 U. S. 531.

Diversity of safety standards thereby results in unfair competition by reason that the higher standards increase operating costs, and (other conditions being equal) consequently reduce the profits of those coal operators who observe them. This is true to the extent that operators subject to the higher standards attempt to place their product in competition in the market at equal prices with the product of operators in states having less strict and costly standards. A few states with low standards will by reason thereof produce a situation tending towards the reduction of the higher standards of other more progressive states.

It is this form of unfair competition between states that the federal food and drugs act, the meat inspection acts, the phosphorus match act, the insecticides act, the virus act, and many others are intended to prevent. The first and second federal child labor acts had the same purpose.

I take it that the advocacy of a federal act for safety standards in the coal industry has a similar end in view.

Primarily these acts are not health or safety laws but business laws to eliminate unfair competition between states. Once such unfair competition is eliminated it is expected that the states will adopt and enforce proper standards. But if the sole basis for the constitutionality of any such statute were the elimination of such unfair competition in the interstate markets, the statute is not thereby a valid exercise of the power of Congress to regulate interstate commerce. Mr. Chief Justice White in the first child labor case<sup>2</sup> clearly met this issue. He says: "There is no power vested in the Congress to require the states to exercise their police powers so as to prevent possible unfair competition. Many causes may corroborate to give one state by reason of local laws or conditions an economic advantage over others. The Commerce clause was not intended to give to Congress a general authority to equalize such conditions."

Had the Chief Justice held otherwise, statutes enacted under the police power of the several states could always be superseded by federal regulation and federal statutes in all cases where the states have not exercised their powers uniformly. State initiative and experimentation in adopting workmen's compensation and health insurance legislation, for instance, would be

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<sup>2</sup>Hammer v. Dagenhart, 247 U. S. 251, 273.

restrained. It therefore follows that while perhaps the most fundamental economic necessity for national safety standards in coal mining is the elimination of this type of unfair competition, nevertheless, the legal basis for the enactment by the federal government of such standards must rest upon constitutional grounds other than that the elimination of such unfair competition is in itself a regulation of interstate commerce.

In the anthracite coal industry, however, the situation differs. One state, Pennsylvania, has a monopoly in the production of this coal. Unfair competition of the type above discussed cannot therefore exist in the anthracite coal industry except to the limited extent that anthracite competes in the market with the bituminous product.

The economic problems in the bituminous and anthracite industries thus differing, it is to be presumed that different legislative treatment would be necessary. Again, the fact that the production of anthracite coal is approximately one-seventh of our annual total production of coal argues for the separate legislative treatment of the anthracite coal industry. Finally, physical differences in mining conditions in the anthracite and bituminous coal industries show a necessity for different minimum standards of safety for each industry.

#### IV.

Advocates of social legislation have become familiar in the last quarter century with the taxing power and the interstate commerce power as the sources of constitutional authority for the congressional enactment of the national standards that they may be advocating.

#### Taxing Power

Since the recent decisions of the United States Supreme Court in the child labor tax case<sup>3</sup> and the grain futures tax case<sup>4</sup>, it is quite clear that social ends may be achieved under the taxing power only in so far as the taxing statute does not on its face make such distinctions in its application as show that the tax is intended primarily as a penalty rather than as a revenue producer, and insofar as the monetary exaction produces the desired result in itself rather than merely provides a lever to supervise the transactions taxed through returns, licenses, reports, and the like.

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<sup>3</sup>Bailey v. Drexel Furniture Co., 259 U. S. 20.

<sup>4</sup>Hill v. Wallace, 259 U. S. 44.

The tariff, inheritance tax, and graduated income taxes, are examples of taxing statutes that fulfill these requirements. The oleomargarine and narcotics drug taxes come close to the border line. The court found that the child labor tax and the grain futures tax passed that line. In the *Doremus* case<sup>5</sup> in sustaining the Harrison act taxes in respect of narcotic drugs, the United States Supreme Court applied this same principle to regulations issued under the taxing statute as well as to the provisions of the statute itself.

It is hard to see how a statute could tax inadequate timbering, ventilating equipment, or signal systems, improper use of explosives, failure to moisten or dilute coal dust, failure to provide suitable sanitary, inspection, and transportation facilities, or failure to make reports as to mine safety conditions, without the statute or regulations thereunder showing on their face that the tax is imposed primarily for regulatory purposes and that the revenue purpose is non-existent or at best merely incidental.

### Regulation of Interstate Commerce

The second source of constitutional authority mentioned was the interstate commerce power. First of all it should be frankly recognized that mining is not interstate commerce within the meaning given to that term in the constitution by the United States Supreme Court. This is so regardless of the fact that three-fourths of the coal produced enters into interstate transportation.

The Supreme Court has repeatedly specifically declared that mining is not interstate commerce and that the power of Congress does not extend to it as such. Such a conclusion was reached in the opinion of Mr. Chief Justice White in the first child labor case and by Mr. Chief Justice Taft (in 1922) in the *Coronado Coal Company* case.<sup>6</sup> Nor may conditions of safety in the mine be regulated by restricting the right to ship coal in interstate commerce. This again is a holding in the first child labor case.

The above conclusions, however, do not mean that the Congress may not regulate mining in its exercise of the power to regulate interstate commerce.

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<sup>5</sup>*United States v. Doremus*, 249 U. S. 86.

<sup>6</sup>*Hammer v. Dagenhart*, 247 U. S. 251, 272; *United Mine Workers v. Coronado Coal Co.*, 259 U. S. 344, 407; see also, *Oliver v. Lord*, 262 U. S. 172, 178.



Congress has frequently regulated intrastate commerce by the use of the power to regulate interstate commerce. Thus, in order to protect and facilitate interstate commerce, the steamboat inspection laws, the navigation rules, and the laws licensing vessel officers have always applied not only to vessels engaged in interstate commerce but to vessels engaged in intrastate commerce or in no commerce at all.<sup>7</sup> The American Bar Association and the National Conference of Commissioners on Uniform State Laws have placed themselves on record as being of the opinion that similar regulations may apply to aircraft engaged in intrastate commerce.

Railroad rates for intrastate commerce may in case they discriminate against or cast an undue burden upon interstate commerce, be regulated by the Congress in order to remove such discrimination or burden.<sup>8</sup>

Issuance of fraudulent and fictitious bills of lading may be penalized by the Congress because, as Mr. Chief Justice White said in *United States v. Ferger*<sup>9</sup>, a contrary conclusion "mistakenly assumes that the power of Congress is to be necessarily tested by the intrinsic existence of commerce in the particular subject dealt with, instead of by relation of that subject to commerce and its effect upon it \* \* \* that power if it is to exist must include the authority to deal with obstructions to interstate commerce and with a host of other acts which, because of their relation to and influence upon interstate commerce come within the power of Congress to regulate, although they are not interstate commerce in and of themselves."

Thus Congress may under the Sherman act regulate agreements to restrain interstate commerce although such agreements in themselves are not interstate commerce. Similarly restraints upon sales in pursuance of interstate transactions or upon sales to warehouses when the usual course of business is that the greater part of the product sold will pass into interstate commerce, may be regulated

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<sup>7</sup>The City of Salem, 37 Fed. 846; The Oyster Police Steamers of Maryland, 31 Fed. 763, Cf., U. S. v. Burlington & Henderson County Ferry Co., 21 Fed. 331, 340-341; The Daniel Ball, 10 Wall. 557; Lord v. Steamship Co., 102 U. S. 541; Norfolk, etc., R. R. Co. v. Pennsylvania, 136 U. S. 114; U. S. v. Jackson, 26 Fed. Cas. No. 15458; The Hazel Kirke, 25 Fed. 601; Ex Parte Koehler, 30 Fed. 867.

<sup>8</sup>Houston & Texas Ry. v. U. S., 234 U. S. 342; American Ex. Co. v. Caldwell, 244 U. S. 617; Illinois Central R. R. Co. v. Public Utilities Commission, 245 U. S. 493; Railroad Commission of Wisconsin v. C., B. & Q. Co., 257 U. S. 563.

<sup>9</sup>United States v. Ferger, 250 U. S. 199, 203.

by Congress and are not subject to state regulation<sup>10</sup>. The current of commerce theory, which was the basis of the regulation of commission merchants under the packers and stockyards act, is an application of this principle to intrastate commercial transactions occurring in the midst of a current of interstate commerce. Thus the unregulated practices of a commission man in Chicago may cast an unreasonable burden upon that current of commerce comprised of the shipment of livestock from western states into Chicago with the expectation that they will after sale by the commission men end their transit in other states either as meat products converted by the packers or as stockers or feeders to be fattened by stock feeders<sup>11</sup>.

It is clear from the line of decisions just discussed that, as Mr. Chief Justice Taft puts it, "\* \* \* if Congress deems certain recurring practices, though not really part of interstate commerce, likely to obstruct, restrain or burden it, it has the power to subject them to national supervision and restraint. \* \* \* Obstruction to coal mining is not a direct obstruction to interstate commerce in coal, although it, of course, may affect it by reducing the amount of coal to be carried in that commerce."<sup>12</sup>

Without my having, however, full knowledge of the facts I can imagine that failure to have adequate standards of safety in coal mining might, by reason of creating accidents or stimulating dissatisfaction and strikes among miners, thereby causing loss of production, result in an indirect obstruction or a suppression of interstate commerce—a result which the court held recently in *Binderup v. Pathe Exchange*<sup>13</sup> to be a restraint upon commerce that Congress might forbid.

Whether the restraint I have suggested is sufficient to serve as a basis for congressional legislation upon minimum standards is to be doubted, but the greater the extent to which you can show the courts that inadequate safety standards result in obstructions, restraints, or burdens upon interstate commerce, the greater the probability that the courts will sustain legislation upon the subject under the interstate commerce power. **It would therefore seem advisable, before requests are made to Congress**

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<sup>10</sup>*Dahnke-Walker Milling Co. v. Bondurant*, 257 U. S. 282; *Lemke v. Farmers' Grain Co.*, 258 U. S. 50.

<sup>11</sup>*Stafford v. Wallace*, 258 U. S. 495; see also, *Chicago Board of Trade v. Olsen*, 262 U. S. 1.

<sup>12</sup>*United Mine Workers v. Coronado Coal Co.*, 259 U. S. 344, 408.

<sup>13</sup>44 Sup. Ct. 96.

for the enactment under the interstate commerce power of minimum safety standards for the coal industry, that exhaustive economic investigation, similar to that made by the Federal Trade Commission in the case of the packers and livestock commission men, should be made to ascertain the effect upon interstate commerce of inadequate safety standards for coal mines.

As to regulations in respect of manufacture and production, including mining, it would seem that the court has no particular conviction that the matter is one for state rather than federal control. The tendency is to the contrary. More and more transactions are being brought within the federal power to regulate commerce. But at this time it cannot be said that the logic of "obstructions, restraints, and burdens" used by the court in extending the commerce power to matters not a part of the actual interstate transportation, is readily applicable in sustaining the enactment of safety standards and inspection laws for coal mines.

## V.

### Publicity

A third possible source of federal action is publicity. If the observance of federal minimum safety standards is not made compulsory, but is enforced only by publicity, instead of by penalties and similar sanctions, the federal government might adopt such standards, ascertain the existence of violations thereof, publish the fact of such violations, and still be within its constitutional powers.

To-day the federal Bureau of Mines inspects coal mines and ascertains the existence of hazards and causes of accidents. However, permission to enter a mine must be obtained from the operator and the report of the conditions found is confidential and made only to the operator. The recent federal Coal Commission suggests in its report that this inspection force of the Bureau of Mines be increased and that the reports be published and also given to the state inspection authorities. The chief difficulty with this lies in the fact that the operators could thereafter refuse access to the mine to the federal inspectors if the reports were made public. I know of no method by which operators could be compelled to grant such access unless this same power of publicity could again be effectively exercised by the publication of the fact of such refusal.

Publicity, however, is no mean weapon. The effect upon the miners and upon the good-will of the mining company, and the uses to which knowledge of the fact of the refusal of access or violations of the federal standards may be made by business competitors, is not lightly to be dismissed. Publication of violations under the food and drugs act and many other Department of Agriculture regulatory measures, as now authorized by law, is more important, effective, speedy, and inexpensive than a much greater number of criminal prosecutions. The decisions of the railway labor board, are, under congressional statute, enforceable solely by publicity and the United States Supreme Court has held such use of publicity constitutes no violation of legal rights which may be enjoined<sup>14</sup>. Similarly Massachusetts minimum wage legislation has been held constitutional when the sanction for violations is publicity of the fact of non-observance of the wage schedule<sup>15</sup>. Under the Standard Computing Scale case<sup>16</sup>, the publication of the trade names of suitable safety equipment and the fact of its use or failure of use, would not involve a taking of property without due process of law.

It would seem that federal standards enforceable by publicity only, might afford an immediate method that at least partially meets the necessity for federal safety standards for mines.

## VI.

There are a number of means which, while not providing a national minimum standard of safety, nevertheless produce a result roughly equivalent to such a standard.

### Uniform State Laws

The mining correlating committee of the American Engineering Standards Committee, in cooperation with the federal Bureau of Mines, is preparing a model safety code to submit to the various mining states for adoption by legislation in order to obtain uniformity of safety mining legislation. This is somewhat in the same fashion that the National Conference of Commissioners on Uniform State Laws have submitted and have had adopted by various states the uniform sales act, negotiable instruments act, stock transfer act, and the like.

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<sup>14</sup>Pennsylvania R. R. v. U. S. Railroad Labor Bd., 261 U. S. 72.

<sup>15</sup>Holcombe v. Creamer, 120 N. E. 354.

<sup>16</sup>Standard Computing Scale Co. v. Farrell, 249 U. S. 571.



### Grants-in-aid

A further method, which is familiar in the field of vocational education and the road-aid legislation, is the device of grants-in-aid. Federal appropriations can be made for the use of each state in experimental and inspection work in the field of mining safety standards, conditioned upon the appropriation of equal amounts by the state and upon the acceptance and enforcement by the state of safety standards approved by a federal agency. Grants-in-aid made to the state, and not directly to individuals, will in all probability be held constitutional<sup>17</sup>.

### State Compacts

Again, uniform state law may be achieved by a state compact or treaty adopted by the several states and consented to by the federal government in accordance with the constitutional requirement. This has been the solution of many problems in respect of the ascertainment of state boundaries and the use of navigable waters. The Colorado River compact is a recent instance.

Under neither the uniform law, the state compact, nor the grant-in-aid, is federal enforcement obtained; merely **the standard is national**. The enforcement would rest in the hands, in each case, of the state authorities. The state compact, however, has one advantage, so far as uniformity is concerned, over the adoption of uniform laws. Presumably the state compact by its terms would not permit of modification unless approved by a specified number of contracting states; nor could the compact be abrogated without the consent of such states. Uniform laws, on the other hand, are subject at all times to modification and repeal by the states enacting them.

The state compact idea, however, is capable of expansion to an extent sufficient to provide federal enforcement.

Though without precedent there can perhaps be provided a state compact to which not only the interested states, but also the federal government, is a party. A joint commission of representatives of the states and the federal government may be established by the compact similar to the joint commissions established by the Versailles Treaty

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<sup>17</sup>*Massachusetts v. Mellon*, 262 U. S. 447; *Millard v. Roberts*, 202 U. S. 429; *U. S. v. Realty Co.*, 163 U. S. 427; *Smith v. Kansas City Title & Trust Co.*, 255 U. S. 180; cf. *U. S. ex rel Miles Planting Co. v. Carlisle*, 5 App. D. C. 138.

or the International Air Navigation Convention, or the compact between New York and New Jersey creating the body known as the "Port of New York Authority."<sup>18</sup> Such a commission may be given power to enact by regulation provisions governing the coal industry subject to the veto power of the United States representatives in so far as the terms of the provisions affect interstate commerce or other powers granted exclusively to the United States by the constitution. The compact could provide that the enforcement of the provisions so adopted should rest with the states, the federal government, or both, or with an inspection force operating under the joint commission.

Under such a scheme the government of the United States could, under our constitutional system, at any time supersede the terms of the compact by congressional legislation insofar as this legislation was enacted under some constitutional power vested in the federal government. The states would not have a similar power. The provisions of joint federal and state compacts quite possibly would, just as the constitution provides in the case of treaties, be the supreme law of the land, and the compact and legislation to enforce it would be constitutional regardless of the power of the Congress directly to legislate upon the substance of the compact<sup>19</sup>. The whole subject of state compacts, however, has been too little considered by the courts for one to make any but the vaguest conjectures as to its legal status.

## VII.

A considerable number of possibilities for obtaining national safety standards in the coal industry have been suggested. Cases arising under them would appeal to different judicial convictions and would be sustained or dismissed by various forms of judicial logic. None of the possibilities is hopeless from the constitutional viewpoint. **It therefore seems that from the wide range of legislative appeal that may be made to the court, it is entirely probable that satisfactory and constitutional national minimum standards of safety could eventually be enacted for the coal industry.**

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<sup>18</sup>42 Stat. 822.

<sup>19</sup>*Missouri v. Holland*, 252 U. S. 416.

# Social Cost of Irregular Employment in Coal Mining

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BY HORACE B. DRURY

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(EDITOR'S NOTE: Safety engineers have long recognized that the highest accident rate is among those employees who are just taking up the work and are therefore not thoroughly familiar with conditions, frequently because of irregularity of employment such as that which Dr. Drury here impressively shows to be a basic evil in bituminous coal mining.)

THE bituminous coal mines of the United States work on an average only 70 per cent of a full-time year. This is not because a mine cannot work every day; for in 1913, 9 per cent and in 1916, 12 per cent of the bituminous mines worked as many as 300 days. It is not because the men do not want to work; for the attendance has been found to be almost as good in mines which run the entire year as in mines which work only two-thirds or one-half of the time. It is not because bituminous coal mining is in its nature seasonal; for the consumption of bituminous coal is fairly independent of the seasons, and there are, in fact, few important mines whose operations are not scattered through practically every week in the year. It is, in the main, mere lack of correlation between production, transportation and consumption, including the opening of more mines than could possibly be used, which keeps the average mine from operating more than about four full days a week.

What results would follow a regularization of the operation of bituminous coal mines? It would mean that at least 160,000 and probably 200,000 men could either be used to produce more coal or be transferred to other industries. In these days when many industries have complained of a shortage of labor, due to the curtailment of immigration, a wastage of the labor of 160,000 or 200,000 men in a single industry is not to be dismissed lightly. Further, and more important, the earnings of the whole body of bituminous miners could be increased 20 per cent, the cost of coal to the consumer could be reduced by 10 per cent, and the operators could make profits on 40 per cent longer operating time—all through no other reform than the regularization of mine operation.

Many concrete steps would have to be taken to bring about the continuous operation of all bituminous coal mines. But the one most important step—a step which would work mightily to bring about all the other necessary changes—would be the development of some principle by which every coal operator opening a mine would guarantee to every worker coming to that mine a certain minimum compensation, both on days of actual operation and on days of shut down. There would, of course, have to be added compensation for work performed. The details of such a plan could be so arranged that no increase in wage cost would be involved. On the contrary, an arrangement is feasible which could be counted on materially to decrease wage cost, at the same time that it increased earnings. There can be little doubt but that **guaranteed compensation for lost time would constitute the most powerful force that could be called into being to encourage and in the end compel full-year operation.**

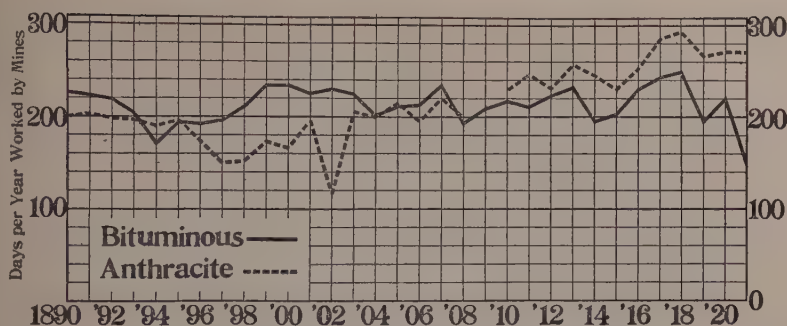
Probably no other waste in the coal industry compares in either its financial or social costs with the waste of men's lives and working capacity through irregular employment. Certainly, there is no other waste which, if men could only turn their wills towards its conquest, could be so cheaply eliminated.

### **Only 216 Days' Work a Year!**

The foregoing is a summary statement of the main elements of the problem of irregular employment in coal mining. The remainder of this paper will take up in greater detail certain important aspects of the problem which our general statement could not cover.

In the first place, it should be noted that we have referred only to the bituminous coal industry. **The bituminous mines employ 80 per cent of the country's mine workers, and produce 85 per cent of the coal.** But the main reason for referring to the effects of irregular employment in bituminous mines only is the fact that, during the last twenty years there has been so marked an improvement in the regularity of operation of anthracite mines that the problem of intermittent employment is in that industry no longer a serious one. From an average of 179 full time days in the ten years 1892-1901, the anthracite average rose to 273 full-time days in the six years 1916-1921—or from as low as 59 per cent, to as much as 90 per cent of a full-time year.



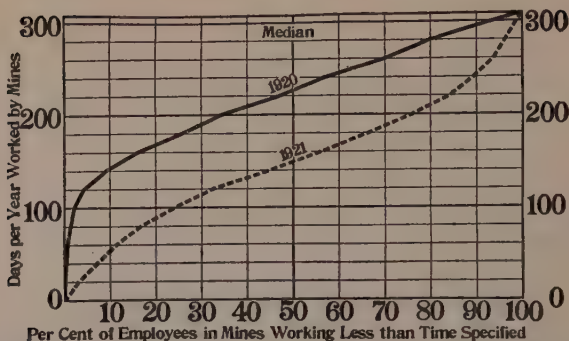


**CHART I.—Average days worked by all bituminous and anthracite coal mines, 1890-1921.**

(Based on statistics of the U. S. Geological Survey)

The statement that the bituminous mines average only 70 per cent of a full-time year applies equally well whether one takes into account a long or a comparatively short period. A full-time year in the bituminous fields may be taken as 308 days. Seventy per cent of 308 days is 216 days. A glance at Chart I shows that, except in one or two war years, average days worked in the bituminous mines have never greatly exceeded 216 days; and except in 1894 and 1921, they have never fallen greatly below that level. The average for the entire 32-year period shown on Chart I was 213 days—or three days less than 70 per cent of a full-time year. The average for the twelve years 1910—1921 was 214 days. This was the average both for the six most recent years, 1916—1921, and for the six pre-war years 1910—1915. We may conclude, therefore, that **for a generation past there has been no improvement in the average days worked by bituminous mines, or any sign of an improvement.**

The national average for days worked by bituminous mines does not, however, sufficiently show the conditions existing in individual mines. Chart II shows, for the years 1920 and 1921, the distribution of days worked among the mines. In 1920 the average for all mines was 220 days. But Chart II shows that only 13 per cent of the employees worked in mines which operated between 200 and 220 days, and only 10 per cent in mines which operated between 220 and 240 days—or only 23 per cent in mines working within twenty days above or twenty days below the average. Six and one-half per cent of the employees worked in mines which operated as much



**CHART II.—Classification of bituminous coal miners by days worked by their mines.**

(Based on statistics of the U. S. Geological Survey)

as 300 days, 14 per cent in mines which operated between 280 and 300 days, 10 per cent in mines which operated between 260 and 280 days, and 13 per cent in mines which operated between 240 and 260 days. Nine per cent worked in mines which operated between 180 and 200 days, 10 per cent in mines which operated between 160 and 180 days, 7 per cent in mines which operated between 140 and 160 days and 9 per cent in mines which operated less than 140 days. To say, therefore, that in 1920 the mines ran 220 days is to over-simplify the real situation. What really happened in 1920 was that a few of the mines ran more than 300 days, a few less than 140 days, and the others were scattered at almost uniform intervals in between. A similar diversity in working time has existed in every other year for which the records have been compiled.

About 60 per cent of the employees in bituminous mines are miners proper, or tonnage men; the other 40 per cent are day men. So far as the tonnage men are concerned the official mine time is usually the outside limit of opportunity to work. On the average, tonnage men work 10 per cent less time than their mines, this proportion being about the same whether a mine works a few days or many days, and being surprisingly uniform for mines in all parts of the country. The 40 per cent of bituminous employees who are day men have considerably greater opportunity to work than is suggested by official mine time. Some of the day men would work the entire year, even if the mine loaded no coal. The others are scattered with much irregularity between this maximum limit of full-time and a minimum limit somewhere near mine operating

time. In mines whose records were analysed by the United States Coal Commission, it was found that day men averaged about 20 per cent more working time than their mines: but this percentage varied greatly in accordance with the number of days worked by the individual mine. As against an average mine time during the last dozen years of 214 days, the days actually worked by tonnage men must, therefore, have averaged about 193, the days worked by day men about 257, and the days worked by the two groups combined about 119. It should be pointed out, however, that among both tonnage men and day men there are the widest variations both above and below the average figures presented.

Median mine days, for reasons which we will not go into here, run about eight or ten days higher than average mine days. Probably a fairer view of the situation in a typical bituminous mine would be obtained, therefore, by raising the figures which have just been mentioned by eight or ten days.

### **Over-development is Largely to Blame**

At the outset we have said that there was no condition inherent in coal mining which prevented full-year operation. It might have been added that one of the main reasons why the bituminous mines have made so bad a showing has been the fact that our whole public and private policy with reference to coal mining has been an **encouragement** of over-development—and hence unstable operation. For example: our railroad rate structure has been so designed as to subsidize—and hence encourage the opening of—mines in out-of-the-way places, which otherwise might have had no mines. Wage scales have been drawn up with a view to keeping alive high-cost mines which otherwise might have been compelled to close. The railroad regulations, under which cars are allocated to mines, rate a mine in accordance with its hourly output—which, particularly in periods of car shortage, encourages mines to employ all the men possible, operate at the highest possible tension, and then, if necessary, close down.

Again, the whole physical system of mining, transporting and marketing coal makes for unsteady operation. Bituminous coal is more or less unique among the products of the mine, the farm and the factory in that it is rarely produced for stock. A mine does not operate until it has a consumer's order, and until the cars in which that coal will go to the consumer are on the siding.

This simplicity of arrangement has a certain efficiency. But the trouble is that any irregularity in the use of coal by the consumer—or in his ordering of it, any irregularity in the car supply—or, indeed, any inability of the transportation system to adjust itself to the irregular demands of the industry—any such interruption means that the even movement of the coal, and hence the even operation of the mines, is broken. The mines can never be run with complete regularity until there is provision somewhere for the stocking or storage of enough coal to prevent the mines being interrupted by every irregularity which may occur elsewhere.

### **A Duty for Coal Consumers**

The consumers of coal, that is the coal trade, have had their part in encouraging irregular operation; for the free manner in which coal purchasers disregard their contracts makes it impossible for any coal mine confidently to plan its production—unless, indeed, it has some connection with the consumer stronger than the ordinary coal contract.

If irregularity of employment in the coal industry is to be avoided, all these policies by which people have gone out of their way to encourage over-development and irregular operation must be reversed. The Interstate Commerce Commission has already made one ruling which, if it is not recalled, should help out materially on the transportation problem.

This was the abolition by an order of June 13, 1923, as yet suspended in its operation, of the assigned car privilege applying to railroad fuel. At present, during a car shortage, the railroads, which consume 28 per cent of the country's bituminous coal, are privileged to distribute cars in excess of the regular allowances to mines which supply the railroads' needs, thus assuring the railroads of a supply. This makes the supply of cars available for other mines even more restricted than it would otherwise be. Deprived of this privilege, **the railroads would be compelled to transport their coal during times of plentiful car supply**, putting it in storage if necessary. No one is in a better position to judge of the imminence of a car shortage than the railroads. No one can, with less risk of loss, resort to storage. If this new order of the Interstate Commerce Commission should stimulate arrangements by which the 28 per cent of railroad coal becomes a counterbalance in the system of coal distribution, the effects might well be very important.



Many, many other changes in law or rule or practice on the part of the government, the mine operators, the miners, and the business world have their part to play in developing regular mine operation. As our final point we wish, however, to develop a little more clearly our suggestion that **the surest way of making real progress towards the regularization of mine operation would be to work out some plan by which it would become the duty and business, as well as the opportunity, of the mine operator to see that regular employment is actually achieved.**

If irregular operation is to be avoided, many things in the coal industry must be changed in a fundamental way. Consumers must be induced to take the coal regularly, or else storage must be undertaken by the mine. The opening of new mines and the expansion of old ones must be held in check, so that development does not run ahead of consumption. Mines must not be started where railroad facilities are inadequate. Indeed, mining operations must actually be curtailed. Attention must also be given to the prevention of mechanical break-downs and to the reduction of all kinds of internal shortcomings in mine operation.

### **A Plan for Guaranteeing Employment**

Most of the steps necessary to guaranteeing regular operation would require considerable planning and effort, or the holding back from what might seem to be opportunities for profit, on the part of operators and others in the coal business. While the analysis of mining costs has shown that regular operation is more economical, and the better-managed companies have been striving in that direction, yet the differences in cost have not been so great but that irregular operation has continued. At the same time, there can be little question but that, **if all the losses that arise from irregular operation were figured in, they would prove to be immeasurably greater than any expense which would be involved in securing regular operation.** The reason why this is not vividly realized is the fact that the losses from part-time operation are mainly losses that are not brought home, in any clear cut way, to the mine operator or his business associates.

The burden of the losses is borne, in the first instance, by the miner and the miner's family. The miner's expense for maintenance is practically the same whether the mine is operat-

ing or not. It is out of his pocket that the immediate, obvious cost of idle days comes. It may be that in the course of many years of wage adjustment it has come about that the miner is paid enough more per day or per ton during the time he works to make up in large part for his losses of earnings on idle days. But if that is so, then the cost of idle time should, to that extent, be put down as **an expense to the industry at large, in the form of higher wage cost, and again as an expense to the public in the form of higher coal prices.** There can be little doubt, also, but that the uneven distribution of the miner's earnings and uncertainty with regard to his opportunity to work on any given day, has had a generally disquieting influence on the miner and the mining industry which has aggravated the wage loss.

Just who lose from irregularity may be a matter of doubt. It is clear, however, that someone is paying for the enormous waste of maintaining 660,000 miners in idleness for about 30 per cent of the year,<sup>1</sup> a direct loss in money of perhaps \$300,000,000 or \$400,000,000.

In the writer's view, the most wholesome remedy for the whole problem of irregular operation would be, not to prohibit the opening of new mines, a policy which might prevent desirable new development along low-cost lines and would certainly raise the peril of monopoly; nor, if it can be avoided, to require that the government take over the mines. A more effective way would be to give some tangible reality to the losses which necessarily arise from idle mine time, to make these losses appear definitely and conspicuously on the balance sheets of those parties who would have to take the initiative in eliminating such losses. If the regularization of coal mining could be made to appear not as something vaguely of value to the workers and the country generally, but as a definite saving and source of profit to those who conduct mines, then the latter would be in a position to figure definitely on just what measures and on what outlay they would be justified in incurring to secure **regular operation.** In a word, the soundest basis for rectifying the whole situation would be to put a value on the idle time

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<sup>1</sup> While the day workers are not idle that long, the mines in which they work must be considered as unproductive. Full-year operation might necessitate an increase in the forces of day men, but the more regular operation would doubtless induce other economies which would justify the rough estimate made above.

of the miner, to charge the mine with the miner's maintenance, just as it is now charged with depreciation and maintenance charges on machinery, or for the losses from accidents under the workmen's compensation system.

In urging that the mine should maintain the miner during periods of forced idleness, it is not the thought to use this as a means of increasing mine expense or wage cost. Let it be assumed that the question of fair earnings for a miner is a question distinct from the present one, and that an agreement on that matter has been reached.

The idea would be to split up this agreed-upon wage into two parts: one a **minimum for maintenance paid each miner as long as a mining company calls for his presence in a community**; the other a **payment for work actually performed**. Give all men, whether tonnage or day men, a modest day rate, which would be paid throughout the term of employment of the men; then give the tonnage men, in addition, a much reduced tonnage rate; and the day men a much reduced additional day rate for the hours actually worked. A miner absent of his own volition should receive no pay of any kind. The way would have to be left open, of course, for a mine operator to keep his force of men down to the number which can actually be used.

It is apparent that, having adopted a wage plan such as that outlined above, any increase in the number of days worked would be to the marked financial benefit of both employer and employed—the employer paying for every added day of employment at a substantially reduced rate, the employee making substantially higher annual earnings. Hence mine operators, as well as mine employees, would have a special interest in steady operation; and **a mine operator would be able to go to considerable expense to regularize the operation of his mine and yet profit by this course**. Strong interest would develop in the working out of the many possible means of regularizing the industry, whether by individual or joint action. It can scarcely be doubted but that in time the bituminous operators would be in substantially as good a position as regards working time as are the anthracite operators at present.<sup>2</sup>

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<sup>2</sup> Any arrangement such as that here suggested should be put into operation gradually, say over a period of five years, so as to avoid precipitating a coal crisis through the too sudden and violent reorganization of the industry.

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# The New York Times

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NEW YORK, THURSDAY, JAN. 24, 1924.

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## "Pulling a Bone"

THE Associated Industries is an organization of merchants and manufacturers, most of them, apparently, "from up-State." Their collective investment is said to be something like \$2,000,000,000. It seems a wonder that persons so extraordinarily gullible as they are now shown to be should be able to keep their money. In a letter to the Governor the association asserted that there had been a "serious break-down of the Department of Labor, particularly in the administration of the Workmen's Compensation act." It made eight charges as to some of which it was "reliably informed." It asked the Governor to appoint a special committee of investigation. Instead, he took up the investigation himself, under the Sherman-Moreland act. The result would be almost ludicrous, if an unwarranted attack upon a great department of the State Government were not gravely to be reprehended.

Two of the charges were withdrawn before any testimony was taken. The others have been disproved. The directors of the association knew nothing in substantiation of the accusations for which they made themselves responsible. They trusted entirely the statement of their General Secretary and legislative agent in Albany. No knowledge could be extracted from him. His inspiration came from a "confidential source," not to be revealed. The members of the association are shrewd men in their own business. Why do they act corporately like a pack of innocents, led by the nose by a fluent and persuasive agent, full of "excessive zeal"? Buyers of the City Hall aren't a bit more credulous than these men of affairs proved themselves in this affair of the State. It would be cruel to add to a discomfiture and humiliation so manifest. Let us content ourselves with hoping that not only societies of business men, but all associations and private persons that take it upon themselves to meddle in the State's business, will learn from this fiasco not to put their trust in enthusiasts, amateur or professional; will form their opinions of public matters upon knowledge and not upon surmise or rumor or interested suggestion; will not heedlessly and ignorantly calumniate public servants.

Meanwhile, other troubles environ the Associated Industries, which so unfortunately pursued this collection of mares' nests. The trade unions and some organizations of women have long and often asserted that the Associated Industries has been active, through its Albany lobby, in choking labor and welfare measures. There may be nothing in the charges, but a company of gentlemen so ductile and dupable may have been betrayed into excessive zeal. "When you pull a bone," says Governor Smith, in that marrowy language that endears him to so many of us, "you ought to own up and admit it." Did the Associated Industries ever "pull" at Albany something less unsatisfying than a "bone"? We agree with the State Federation of Labor that the Legislature ought to investigate the operations of the Associated Industries at Albany. Guilelessness needs a guardian; and turn about is fair play.

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# Mark Daly's Lesson to Employers

## An Issue in Labor Law Administration

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WHEN Mark Daly, secretary of Associated Industries, Inc., launched his spectacular attack on the New York state labor department at the beginning of the legislative session, he did more than "pull a bone." His action brought discomfiture to the officials and members of his own organization. It aroused public amazement and indignation. It stirred even the conservative press to protests against "irresponsible" conduct. But, stripped of its sensational aspects, it stumbled upon an issue of continuing importance—no less an issue than the kind of organization that shall be maintained to administer the labor laws.

On January 13 a letter was sent to Governor Smith by the board of directors of Associated Industries, a mostly "up-state" organization of merchants and manufacturers, which brought serious charges against the state labor department. Positive assertions were made that there had been inefficiency and extravagance and a "break down" of the department, particularly involving the administration of the state workmen's compensation law. An investigation was demanded. The demand was made the occasion for wide and expensive publicity aimed at the department.

Governor Smith promptly—and unexpectedly—announced he would hold a hearing himself and subpoenaed the officers of Associated Industries to appear and disclose the basis of their charges.

As soon as the hearing opened, the most serious of the charges were hastily withdrawn. The rest were then quickly disproved, and disavowed by their sponsors. Blame for bringing the unsupported complaints was placed upon Mr. Daly's "excessive zeal" by his directors, who thereupon complimented Commissioner of Labor Bernard L. Shientag for his good showing in administering the labor laws.

Mr. Daly's "stunt," as lobbyist of his organization, thus proved a boomerang. But while he was nursing his own bump, his directors were making a discovery. They discovered that when they got their information direct from official headquarters—which the hearing afforded—they were able to form an intelligent and, in this case,

favorable opinion of the labor department activities—quite different from their impression formed upon second-hand “information” concocted by their zealous lobbyist. Though the demonstration was compulsory, it was nevertheless salutary.

This experience may lead officers of Associated Industries, as well as others, to question whether the right thing was done when in 1921 the administration of labor laws in New York was taken out of the hands of a representative commission and vested in a single commissioner, although the present administrator is beyond reproach.

Mr. Daly and his friends at Albany were back of the “political reorganization” of the labor department, under Governor Miller three years ago. They were highly satisfied with the commissioner then appointed, but labor was not. At the ensuing election the voters of the state, among other things, rebuked this one-sided rigging of the department and turned out of office the political group who did it.

The new commissioner, Mr. Shientag, brought to his office the public service point of view that laws for the protection of labor should be given effect in letter and spirit. That he has ably and impartially carried out this high conception of the administrator’s duty has been recognized by well-informed employers, by labor and by social service organizations.

But governors cannot be expected to hold educational hearings for the benefit of either employers or labor whenever an administrative issue arises in which their interests appear to clash. This affair emphasizes anew the permanent need of administering the labor laws through a representative commission.

There is real significance in the comment of the editor of a labor paper, *Industrial Weekly*, on “Daly’s Boner.” He says:

Just a few years ago the two parties (employers and employees) were working in harmony, and it was an inspiring sight to see representatives of both bodies—the Associated Industries and the State Federation of Labor—appearing before the governor or legislative committee arguing jointly for legislation that would tend to lift unnecessary burdens from industry.

The American Association for Labor Legislation has observed with special care the growth and vicissitudes of the New York administration of labor laws over a period of fifteen years. It has assisted by supplying facts when various official inquiries were under way and throughout a period of ten months during 1916-17

it conducted a continuous investigation of the actual operation of this important state department.

In June, 1917, it published a report of its own special inquiries covering more than two hundred printed pages of the size of this REVIEW entitled "Administration of Labor Laws in New York."

The officers of this association have seen one political administration follow another in rapid succession. They have seen this state department politically "reorganized" from bottom to top three times within a decade.

The range of administrative form has run the gamut from the old time single commissioner of labor—later accompanied by a separate compensation commission—to a unified industrial commission of five members, which was again—in 1921—shaken back into an organization with a single administrative head with a subordinate industrial board of three.

Many conclusions can be drawn from the various destructive, demoralizing effects of political reorganization and of complacent inefficiency even under the not unmixed merits of the civil service. But outstanding and supremely important is the evident desirability in the great industrial state of New York of the industrial commission form of administration. The ambitious efficiency engineer, with a "call" to reorganize government departments, in accordance with his own particular symmetrical chart, may consider the commission form less "efficient," but, despite this superficial viewpoint, it offers in its own human field perhaps the only plan for highest efficiency.

One man, it is often said, can run a government department much more efficiently than can a board of three or five persons. But this is open to very serious question, when it involves the administration of labor law in a state where the two industrial groups most directly affected are strongly organized.

For there cannot be the greatest efficiency without co-operation between employers and labor in understanding and carrying out the provisions of the labor laws. Such co-operation is not dependent upon the very great administrative ability of a single man, but far more upon the attitude of these two great industrial groups toward sympathetic law enforcement.

When organized labor thinks it has a grievance and wishes to be heard, it appreciates having some one to consult with who understands labor's point of view. In much the same manner,

organized manufacturers approach these problems of legal regulation in the industrial field. They want to feel that some one—"their man"—is in a position to watch developments from the inside and to bring their point of view to bear where it will count at least equally with that of labor. If either group, experience shows in New York, is long to have the confidence which must precede respect for the administration of the labor laws, it must feel that its point of view is represented **effectively**.

Each side must be able to consult at least one administrator who is, they feel, of their own special group in the administration and he must be "**at the top.**" This is possible only through a **representative commission**. A subordinate advisory board of employers and employees, such as the one incidentally wiped out three years ago and now proposed for reinstatement, may be helpful at times but it is not sufficient.

Under a representative commission the actual direction of **detailed** administrative work may for the sake of efficiency be placed in charge of a single person, either a member of the commission or an officer appointed by and responsible to the commission.

The trend in America is toward the industrial commission form of administration. Experience of a dozen years under workmen's compensation laws has shown that only by this method can there be secured that representative control—that co-operation—without which there is always the paralyzing danger of industrial or political partisanship. In New York state it appears desirable to have a representative industrial commission not only to protect a good and able administrator from unwarranted interference like the recent contemptible partisan attack by Mark Daly—an authorized attack that could not have happened under the earlier representative commission—but also to keep the administration of labor laws continuously upon the high plane of the welfare of the whole community.





# A Problem in Administration of Laws

## Single Head or Representative Commission?

IN an article on "Dogmas of Administrative Reform"<sup>1</sup> Prof. F. W. Cocker analyzes the results of the 1921 reorganization of the state administrative offices in Ohio which was based upon the general principle that a single headed administrative department produces the greatest economy and efficiency. Professor Cocker says:

However appealing this theory of a unified, responsible executive may be, however valid the theory may be in certain of its applications, it may be subject to more substantial and radical qualifications than our leaders in administrative reconstruction are allowing. \* \* \*

First, in the matter of the single headed administrative department, is it true that for all such departments unity of power and responsibility is of more importance than continuity of policy and the maintenance of relations of mutual respect and confidence between head and staff? \* \* \*

Secondly, are we not in danger of carrying too far the idea that popular control is advanced chiefly by placing vast powers in one elected officer, with the expectation that this officer will feel responsibility so certainly fixed upon him that he will be more sensitive to public opinion than he would be if he possessed a narrower allotment of power? Are we not overlooking other equally potent incentives to good service—other incentives which may be weakened by this centralization of power? Are we not greatly exaggerating the ability of public opinion—even an intelligent and alert public opinion—to keep constant observance upon its representatives and to pass satisfactory judgment upon them periodically? \* \* \*

With the exception of the national government of the United States, a few cities of the United States (Pittsburgh, Boston, Cleveland, for example) and some Latin-American governments, no important government—national, district, or local—anywhere in the world is organized on the principles, or on the basis of anything approaching the principles, of narrowly concentrated authority and responsibility—principles upon which many of our reformers of state and city government are defending their plans for consolidated executives.

These recent systems of reorganization give too little weight to such needs as the following:

(1) The need of securing continuity of policy in administrative departments having work of a technical and regulation-establishing character;

(2) the need for facilitating the establishment of customs and traditions of non-interference by periodically changing political officers;

(3) the need for eliciting the participation of disinterested citizens serving on unpaid boards, exercising powers of investigation, advice and publicity;

(4) the need for placing legal authority and responsibility in the particular offices most likely to develop a sense of professional responsibility and pride in connection with the work of such offices;

(5) the uselessness of extending the scope of power of any officer beyond the limits of what that officer can actually devote his attention to. Both reason and experience show that, for the administration of many functions, diffusion, rather than concentration, of authority, secures not only more efficient but also more democratic administration.

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<sup>1</sup>*American Political Science Review*, August, 1922.

# Important Labor Laws Signed By Woodrow Wilson

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## I. As Governor of New Jersey, 1911-12.

- 1—Accident compensation law—one of the first state workmen's compensation acts in America to become permanently effective.
- 2—Standard accident reporting law, requiring employer to report time, place, cause, and nature of injury.
- 3—Acts regulating child labor in mercantile establishments.
- 4—Acts restricting length of working days to eight hours on public works; ten hours in bakeries; ten hours for women workers.
- 5—Laws to improve conditions relating to factory sanitation and safety, collection of wages, and employment bureaus.

## II. As President of the United States.

1914

- 1—Clayton act—labor not a commodity; anti-trust law not applicable to labor unions and farmers' cooperatives.
- 2—Eight-hour law for women workers in the District of Columbia.

1915

- 3—La Follette seamen's act—releasing seamen from involuntary servitude.

1916

- 4—Workmen's compensation act—for injured civilian employees of the United States government.
- 5—Federal child labor law—products of child labor in mine and factory to be excluded from interstate commerce.
- 6—Adamson law—establishing basic eight-hour day for railroad employees.

1917

- 7—Appropriation of \$250,000 for federal employment service.
- 8—Act bringing longshoremen under state workmen's compensation laws.
- 9—War risk insurance—providing compensation for soldiers and sailors in case of death or disability.

1918

- 10—Acts extending provisions for war-time public employment service, and raising appropriation (this and following year to about \$1,000,000).

1919

- 11—Acts authorizing President to convene International Labor Conference at Washington and making appropriation for same.
- 12—Minimum wage law for women workers in the District of Columbia.
- 13—Federal child labor law—prohibitive tax on products of child labor.
- 14—Acts increasing wages of government employees.

1920

- 15—Act establishing Women's Bureau of the United States Department of Labor.
- 16—Act establishing Railroad Labor Board.
- 17—Act giving seamen same rights as railroad employees under federal employers' liability law.
- 18—Retirement law for civil service employees—providing pensions.
- 19—Vocational rehabilitation law extended to industrial cripples.
- 20—Acts allowing great extension of administrative machinery relating to labor during the war.

# Woodrow Wilson on Labor

## As Governor of New Jersey.

"A new economic society has sprung up and we must effect a new set of adjustments. We must not pit power against weakness. The employer is generally in our day, as I have said, not an individual but a powerful group of individuals, and yet the workingman is still under our existing law, an individual when dealing with his employer. \* \* \* We must have a workingmen's compensation act which will not put upon him the burden of fighting powerful composite employers to obtain his rights but which will give him his rights without suit, directly and without contest by automatic operation of law, as if of a law of insurance."—*At Inauguration as Governor of New Jersey, January 17, 1911.*

"The attitude of Government toward labor lies at the heart of almost everything that concerns us as a nation,"—*At Columbus, September 20, 1912.*

## As President of the United States.

"There can be no equality of opportunity, the first essential of justice in the body of politics, if men and women and children be not shielded in their lives, their very vitality, from the consequences of great industrial and social processes which they cannot alter, control or singly cope with. \* \* \* The first duty of law is to keep sound the society it serves. Sanitary laws, pure food laws, and laws determining conditions of labor which individuals are powerless to determine for themselves are intimate parts of the very business of justice and legal efficiency."—*From Inaugural Address, Washington, March 4, 1913.*

"It seemed to me \* \* \* that the whole spirit of the time and the preponderant evidence of recent economic experience spoke for the eight-hour day. It has been adjudged by the thought and experience of recent years a thing upon which society is justified in insisting as in the interest of health, efficiency, contentment, and a general increase of economic vigor."—*Address at special session of Congress, August 29, 1916.*

"I think it would be very unfortunate for any of the states to relax laws by which safeguards have been thrown about labor. I feel that there is no necessity for such action and that it would lead to a slackening of the energy of the nation rather than to an increase of it, besides being very unfair to the laboring people themselves."—1917.

"I am as keenly aware, I believe, Sir, as anybody can be, that the social structure rests upon the great working classes of the world, and that those working classes in several countries of the world have by their consciousness of community spirit, done perhaps more than any other influence has to establish a world opinion, an opinion that it is not of a nation, which is not of a continent—but is the opinion of mankind."—*Address at Milan, January 5, 1919.*

"I anticipate that there will be a very great usefulness in the bureau of labor which it is contemplated shall be set up by the League. While men, women and children who work have been in the background through long ages, and sometimes seemed to be forgotten \* \* \* now, if I may believe the picture I see, there comes into the foreground the great body of the laboring people of the world, the men and women and children upon whom the great burden of sustaining the world from day to day falls, whether we wish it to do so or not; people who go to bed tired and wake up without the stimulation of lively hope. These people will be drawn into the field of international consultation and help, and will be among the wards of the combined Governments of the world. There is, I take leave to say, a very great step in advance in the mere conception of that."—*Address after reading the Covenant of the League of Nations; third plenary session of Peace Conference, Paris, February 14, 1919.*

"There must be some very fundamental economic reforms in this country. There must be a reconstruction of the structure of our economic society. Whether we will it or no, the majority of mankind demands it, in America as elsewhere."—*Speech before the Commonwealth Club of California, San Francisco, September 18, 1919.*

## International Labor Legislation

AT the **Sixth Session of the International Labor Conference**, which will be held at Geneva, June 16, 1924, the following agenda will be considered:

1. Development of facilities for the utilization of workers' leisure.
2. Equality of treatment for national and foreign workers as regards workmen's compensation for accidents.
3. Weekly suspension of work for twenty-four hours in glass-manufacturing processes where tank furnaces are used.
4. Night work in bakeries.

Additional matters to be brought before the conference include the Report of the Advisory Committee on **Anthrax** and a Report on **Unemployment** containing the results of an investigation made by the official International Labor Office.

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OCTOBER 2-5, 1924, is the date finally agreed upon for the **International Congress on Social Problems** to be held at Prague. The congress has been arranged by the International Association for Labor Legislation, in cooperation with the International Association on Unemployment. The program, as announced on these pages in the December number, calls for (1) examination of the international situation in matters of social policy, including progress made since 1897; the reasons for the present stagnation; the means of obtaining the ratification of international conventions; the means of protecting countries with advanced legislation against the competition of backward countries, and (2) determination of the general principles of the new social policies, including moral and social effects of the eight-hour day; the development of workers' education; the participation of the workers in the management of industrial undertakings, and obligations of the community in respect to industrial crises.

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A RECENT summary of action taken on **Draft Conventions and Recommendations** adopted by the first four official International Labor Conferences, indicates a number of ratifications since the earlier summary that appeared in the March, 1923, issue of this REVIEW.

Of the 1919 Washington Conventions, those on **unemployment** and on **childbirth** have been ratified by Spain; those on **minimum age** and on **night work for young persons** by Denmark, and that on **white phosphorus** by Esthonia. Bulgaria and Esthonia have each ratified the 1920 Genoa Conventions dealing with **minimum age at sea**, **unemployment**



indemnity, and **employment for seamen**. Of the 1921 Geneva Conventions, that on **age of admission to agriculture** has been ratified by Czechoslovakia, that on **rights of association in agriculture** by Czechoslovakia, Finland, Great Britain, and India, that on **workmen's compensation in agriculture** by Denmark and Great Britain, that on **white lead** by Czechoslovakia, that on **weekly rest in industry** by Czechoslovakia, Finland, India and Roumania, and those on **minimum age** for trimmers and stokers and on **medical examination** of young persons at sea by Roumania.

Additional progress has been made in adoption of the less formal Recommendations. The Washington Recommendation on **reciprocity of treatment of alien workers under protective labor laws** has been put into effect by Brazil, Sweden, and Switzerland, while that on **lead poisoning** has been adopted by Austria. Denmark and Norway have given effect to the Genoa Recommendation dealing with a national **seamen's code**. The Geneva Recommendation on technical **agricultural education** has been adopted by Austria and that on **agricultural living-in conditions** by Poland. Esthonia has put into effect the 1922 Geneva Recommendation on **emigration statistics**.

Legislation embodying the standards of ratified Conventions has been enacted by a number of countries.

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MEETINGS of the **International Association for Labor Legislation** and the **International Association on Unemployment** will be held in connection with the social problems congress at Prague, October 2-5. Members of the American Association for Labor Legislation who may be able to attend these conferences should notify the office as early as possible.

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UPON invitation of the Italian government, a conference of those countries essentially concerned with **immigration and emigration** will be held in Rome early in 1924. The object will be to examine migration problems from a technical rather than a diplomatic standpoint, with a view to finding bases of collaboration between the administrative services of the countries represented.

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At the first session of the Advisory Committee on Industrial Hygiene held in Geneva, September 13-15, 1923, the program of the International Labor Office for the study of **unhealthy processes** was approved as well as the plans for research on the **disinfection of hides and skins** in conjunction with the health committee of the League of Nations. Further detailed suggestions were also made for both of these projects.

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MEASURES to protect workers engaged in handling hides and skins from **anthrax** were discussed at a recent conference in Geneva of the International Committee of Experts on Industrial Hygiene appointed to assist the official International Labor Office in accordance with resolutions adopted at the Washington Conference of 1919.

# Report of Work

## American Association for Labor Legislation

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BY IRENE OSGOOD ANDREWS

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ALTHOUGH the post-war reaction against state intervention has far from disappeared, still there was a marked interest in more liberal legislative programs in many of the forty and more states holding sessions in 1923. Not always did these programs achieve success but their very inception gives a more hopeful outlook for the future.

The principal task of the Association for the past fifteen years has been in the field of workmen's compensation. Only six states and the District of Columbia are still without accident compensation laws. In two of these, Florida and North Carolina, attempts to secure new laws were frustrated by employer opposition and general lack of interest.

About thirty states in all amended their acts in 1923 and important improvements, including shortening of the waiting period, increasing the benefits, liberalizing medical care, extending the coverage and lengthening the compensation period were secured.

During the year public interest was shown in attempts to free compensation laws from the selfish and obstructive practices of commercial stock insurance companies by creating state insurance funds. Quantities of literature on this subject were requested from half a dozen capitols where state fund bills had been introduced. In Tennessee a state mutual for coal operators was created. Following a local investigation of occupational hazards in the District of Columbia by the Association's Washington representative, Irene Sylvester Chubb, effort was put forth to secure adequate relief for private employees in the District of Columbia through long deferred compensation legislation, but these efforts were defeated by the tactics of the casualty insurance agents. The attempt of Comptroller General McCarl to deny compensation for occupational diseases under the law for federal employees was temporarily averted by concerted action of this Association and the federal Employees' Compensation Commission with the support of the Department of Justice and the late President Harding.

The repeated occurrence of mine explosions with their ghastly toll of human life has led us to make a special study of methods of prevention both in this country and in England. This subject has proven to be a complicated one but our study, including a number of conferences with mining engineers, mine inspectors and representatives of the interests most directly affected, has resulted in the formulation of a program for prevention. This program in tentative form was presented first in various issues of our REVIEW and then before the American Academy of Political and Social Science and again at our own annual meeting. It will be printed for wide distribution in the educational campaign which must precede legislative action. In 1923 we assisted in defeating the proposed repeal of the North Dakota mining code, and in securing a new code in Iowa. For the first time mine inspection was established in Arkansas.

Pioneer legislation for general old age pensions, based upon the standard bill prepared in cooperation with this Association, were established in three states, Pennsylvania, Montana and Nevada. The Pennsylvania commission with a small initial appropriation is already developing administrative machinery to be in readiness to pay pensions as soon as sufficient money is voted by the legislature. The limited Alaska pioneers' act of 1915 was amended to increase benefits and to cover a larger group.

Continuous efforts to secure one-day's-rest-in-seven resulted in an emasculated law in Minnesota and in the passage of bills through the lower houses in Pennsylvania and Illinois. Again and again has this much-needed legislation been defeated in senate committees.

In 1923 Oregon and Arkansas joined the federal-state plan for the rehabilitation of industrial cripples making a total of thirty-six. During the year twenty-nine states by legislative act accepted the provisions of the Sheppard-Towner Maternity Act. All but eight states—Maine, Kansas, Vermont, Massachusetts, Connecticut, Rhode Island, Illinois and Louisiana—have already adopted legislation accepting federal cooperation under the maternity act.

Special pieces of research work undertaken by the staff include an intensive study of the position of non-resident dependents of aliens killed under our workmen's compensation laws, and the abuses practiced by commercial employment agencies upon the newly arrived immigrant. Both of these reports were made to the New York Joint Legislative Committee to Investigate the Exploitation of Immigrants. An intensive study of the experience of the various states in compensation disability due to occupational diseases was begun and will be completed soon. While in England during the early Fall the secretary gave special attention to the international aspects of the operation of the federal Seaman's Act and also to British methods of administering mine accident prevention laws. On both of these subjects further legislation is proposed in America.

The secretary attended in Luxemburg during September the first general meeting since the war of the International Association on Unemployment of which our Association is the American Section. He pointed out that America approaches the various phases of the unemployment problem from the viewpoint of prevention and as an unofficial observer for the President's Unemployment Conference reported on efforts toward the stabilization of industry and on progress in adoption of the long-range public work policy for periods of depression. A brief sketch of the activities of the American section in developing a program and in promoting conferences and public action for the mitigation of the evils of unemployment, was published in the proceedings of the international conference.

Detailed analysis of the 1923 labor laws was made by H. G. Sternau of the Association staff, this being the fifteenth annual summary of the new laws in our field.

The press department under the direction of Frederick W. MacKenzie sent out sixty general news stories and articles to the daily and labor press. In addition it supplied eight "wire" stories to news associations; and furnished twenty-nine special stories and interviews to the press, including a series of three articles for a feature syndicate. Publicity matter was prepared in five cases upon request of cooperating officials and organizations. Publicity for



our program was also secured through public addresses by the secretary and by officers and staff members.

Many thousands of informing letters have been sent to our members and to legislators concerning pending measures throughout the country. Members of the staff and of working committees of the Association upon request have appeared at state capitols and in Washington to further explain the need of constructive measures, and have also attended numerous conventions, including the annual meetings of the National League of Women Voters at Des Moines, the International Association of Government Labor Officials at Richmond, the National Association of Manufacturers at New York, and the National Conference on Social Work at Washington.

Our total paid-up membership is 2,924. The Association is accomplishing a great deal on a very modest budget. It is continually hampered by lack of funds. Its financial support comes entirely from voluntary contributions of its members.

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## Annual Business Meeting

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**T**HE seventeenth annual business meeting of the American Association for Labor Legislation was held at the New Willard Hotel, Washington, D. C., December 28, 1923, with Paul H. Douglas in the chair.

Minutes of the preceding meeting were approved, without reading, as published in the *AMERICAN LABOR LEGISLATION REVIEW* for March, 1923, pp. 90-93.

Report of Work for 1923 was made by the secretary, John B. Andrews, and adopted for printing (see page 100). In the absence of the treasurer, Adolph Lewisohn, the secretary also read the Financial Statement, which was referred to the chartered public accountants (see page 103).

The secretary outlined the recommendation of the Executive Committee upon research and legislative activities of the Association for the coming year, and this report was followed by general discussion of the immediate legislative program and by special reports by Bryce Stewart, Otto T. Mallery, Charles H. Verrill, Irene Sylvester Chubb and Mary Stewart. N. I. Stone presented a resolution requesting the Association to appoint a committee of three to cooperate with committees of other social science organizations in securing scientific classification of federal government employees. The resolution was adopted.

For the Committee on Nominations, Mr. Mallery reported a list of proposed officers and members of the General Administrative Council who were elected.

The general officers and vice presidents who served in 1923 were all re-elected. On the Executive Committee Thomas I. Parkinson was added and John J. Munholland and R. M. Little were not re-elected. On the General Administrative Council the following were added: A. W. Erickson, Samuel Fels, William Hard, E. A. Holbrook, Royal Meeker, Mary Young Moore, James H. Post, Belle Sherwin and Josephine Spriggs. The following were not re-elected: F. A. Acland, Mary Beard, R. J. Caldwell, Ida M. Cannon, Morris Cooke, Fred C. Croxton, William B. Dickson, Marie Bankhead Owen, A. R. Warner, and C. E. A. Winslow.

JOHN B. ANDREWS,  
*Secretary.*



# FINANCIAL STATEMENT

## STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE TWELVE MONTHS ENDING DECEMBER 31, 1923

Balance, January 1, 1923, per cash book..... \$189.13

### Receipts:

Members' dues and contributions.....	\$37,036.10	
Sale of literature.....	734.01	
Interest on bank balance.....	97.57	
Miscellaneous .....	36.05	
		<hr/> 37,903.73
		<hr/> \$38,092.86

### Disbursements:

#### Salaries:

Administrative, editorial and research.....	\$19,458.03	
Stenographic and clerical.....	4,789.23	
Printing and engraving:		
A. A. L. L. review, reports and bulletins.....	3,729.76	
Circulars, enclosures, etc.....	1,354.79	
Pamphlets .....	429.66	
Postage .....	1,752.05	
Stationery and office supplies.....	734.87	
Traveling expense .....	1,904.80	
Freight and express.....	27.72	
Telephone and telegraph.....	324.96	
Rent and light.....	2,136.00	
Books, clippings, etc.....	158.15	
Office expense .....	501.35	
Committee expense .....	98.46	
Miscellaneous, including legislative index service, annual meeting expense, audit fee and bank charges .....	329.85	
		<hr/> 37,729.68

Balance, per cash book, December 31, 1923..... \$363.18

We have examined the records of cash receipts and disbursements of the American Association for Labor Legislation for the year ending December 31, 1923, and we certify that the above statement is a correct summary of the transactions for the period as shown by the cash book. We have not undertaken to verify the receipts themselves but we have satisfactorily ascertained that all receipts for 1923 recorded in the cash book, were deposited with banks to the credit of the Association, and that all disbursements of cash were supported by properly receipted vouchers. The cash balance at December 31, 1923 was verified by us.

PRICE, WATERHOUSE & CO.,  
Chartered Accountants.

## Book Reviews and Notes

**The Sailors' Union of the Pacific.** BY PAUL S. TAYLOR. *New York, Ronald Press, 1923. 188 p.*—An important contribution to the literature of trade unionism in America. The subject is one to inspire vivid presentation, and this Dr. Taylor has achieved. It is refreshing to find an interesting chapter of labor history so well written. The book tells of the emancipation of the seamen "from serfs to free men"—a long struggle on the part of the union which made use of both economic and political means. The La Follette seamen's act—a measure for the safety of passengers at sea as well as for the protection of seamen—is admirably reviewed. The dauntless spirit of the seamen's chief, Andrew Furuseth, is, of course, reflected in the book and Dr. Taylor has touched upon the devoted quality of his leadership with sympathy and insight.

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**Cycles of Unemployment in the United States, 1903-1922.** BY WILLIAM A. BERRIDGE. *Boston, Houghton Mifflin, 1923. 88 p.*—This study won first prize from the Pollak Foundation for Economic Research. It appears in book form, "especially adapted to the needs of the business man, the social worker, and the public-spirited citizen," as the editor of the Pollak publications truthfully remarks. Professor Berridge's analysis of unemployment shows, significantly, that "the problem of forecasting cyclical unemployment is \* \* \* essentially that of forecasting business cycles themselves." A highly valuable contribution to the rapidly-growing literature on stabilizing business.

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**Social Problems and Social Policy.** EDITED BY JAMES FORD. *Boston, Ginn and Company, 1923. 1027 p.*—Out of a great mass of literature on social policy, or applied sociology, Dr. Ford has selected an impressive array of authors and material with a view to bringing together "the best of contemporary ethical theory and the best of contemporary practice." Includes sections on social purpose, social method, and the problem of poverty with discussions of economic factors and prevention. Well devised for constructive use by students as well as for helpful reference by publicists and specialists in social service.

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**La Lutte Judiciaire du Capital et du Travail Organisés aux Etats-Unis.** BY EDOUARD LAMBERT AND HALFRED C. BROWN. *Paris, Marcel Giard, 1924. 469 p.*—A scholarly study by the professor of comparative law at the University of Lyon, and an American collaborator, of the struggle in the courts between employers and organized labor in the United States with especial reference to the outstanding legislation and judicial decisions relating to boycotts, picketing, and sympathetic strikes since 1908. This monograph is the sixth volume of the *Bibliothèque de l'Institut de Droit Comparé de Lyon*.